Kennedy Jenks

32001 32nd Avenue South, Suite 100
Federal Way, Washington 98001
253-835-6400

Stormwater Site Plan

City of Issaquah
SPAR Booster Pump Station

22 February 2021

Applicant and Property Owner:

City of Issaquah
1775 12th Ave NW
Issaquah, WA 98027

KJ Project No. 1397005*00

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Acronyms and Abbreviations

%	percent
BMP	best management practice
cfs	cubic feet per second
COI	City of Issaquah
Ecology	Washington State Department of Ecology
LID	Low Impact Development
Manual	2017 Stormwater Design Manual
NAVD-88	North American Vertical Datum of 1988
O&M	operation and maintenance
PGIS	Pollution-Generating Impervious Surface
Project	South SPAR Booster Pump Station
sf	square feet
SSP	Stormwater Site Plan
SWMMWW	Stormwater Management Manual Western Washington
SWPPP	Stormwater Pollution Prevention Plan
WQ	water quality
WSDOT	Washington State Department of Transportation
WWHM	Western Washington Hydrology Model

Section 1: Project Overview

Kennedy/Jenks Consultants, Inc. (Kennedy Jenks) has developed this Stormwater Site Plan (SSP) on behalf of the City of Issaquah (COI) for the South SPAR Booster Pump Station and Transmission Main Project (Project) that will serve the Highlands Central Park 742 Zone.

The Project entails approximately 0.57 acres of land disturbing activities to install a new booster pump station and new paved access road. This Project includes the following items:

- Installation of 7,300 lineal feet of 12-inch diameter water main
- Installation of a booster pump station and 1,200 square foot associated building.
- Installation of a maintenance access road with approximately 18,500 square feet of new asphalt pavement.

This SSP intends to satisfy COI Minimum Requirements for Stormwater Mitigation for greater than 5,000 square feet of new or replaced impervious surface. As defined in COI's 2017 Stormwater Design Manual (Manual) (Manual; 2017) published in 2016, evaluation of Minimum Requirements #1 through # 9 is required. Figure 2.3 – Flow Chart for Determining Requirements for New Development from the Manual is included as Appendix A.

This SSP follows requirements in the Manual stating that SSPs shall be prepared in accordance with the Washington State Department of Ecology (Ecology) Stormwater Management Manual for Western Washington (SWMMWW) (Ecology 2014), and the Manual. This SSP has been prepared based on a thorough evaluation of these two documents. The nine minimum requirements include:

Minimum Requirement #1: Preparation of Stormwater Site Plans (SSP). SSPs shall be prepared in accordance with the current editions of the Ecology Manual, and the Manual.

This document meets Minimum Requirement #1.

Minimum Requirement #2: Construction Stormwater Pollution Prevention Plan (construction SWPPP). All new development and redevelopment shall comply with construction SWPPP Elements No. 1 through No. 13 as outlined in the Ecology Manual.

A construction SWPPP will be prepared by others as a stand-alone document.

Minimum Requirement #3: Source Control of Pollution. Source control best management practices (BMPs) shall be selected, designed, and maintained according to the Ecology Manual.

The proposed improvements do not create pollution generating impervious surfaces (PGIS). PGIS are defined in the Manual as impervious surfaces considered as significant sources of

pollutants in stormwater runoff. Such surfaces include those that are subject to vehicular use or storage of erodible or leachable materials, wastes or chemicals. Impervious surfaces not regularly used by motor vehicles, including infrequently used maintenance access roads, are not considered PGIS. The access road and access areas around the SPAR Pump Station are considered “infrequency used maintenance access roads”.

PGIS also include untreated metal roofs that have the potential to leach pollutants. The SPAR Pump Station’s metal roof will be coated to prevent pollutant leaching and therefore, is not considered a PGIS.

Minimum Requirement #4: Preservation of Natural Drainage Systems and Outfalls. Natural drainage patterns shall be maintained, and discharges from the project site shall occur at the natural location, to the maximum extent practicable.

This is addressed in Section 4 of the SSP.

Minimum Requirement #5: Onsite Stormwater Management. Onsite stormwater management BMPs are required to be constructed to infiltrate, disperse, and retain stormwater runoff onsite to the extent feasible without causing flooding or erosion impacts.

This is addressed in Section 4 of the SSP.

Minimum Requirement #6: Runoff Treatment. Projects shall utilize onsite stormwater BMPs for the treatment of runoff. Treatment facilities and BMPs shall be designed, sized, and provided for in accordance with the Ecology Manual.

The new and replaced hard surfaces associated with this project are non-pollution-generating impervious surfaces. This requirement does not apply.

As discussed in Minimum Requirement #3, the completed project elements will not include PGIS as the access road and access areas around the SPAR Pump Station are considered “infrequency used maintenance access roads” and the SPAR Pump Station’s metal roof will be coated to prevent pollutant leaching.

Minimum Requirement #7: Flow Control. Projects must provide flow control to reduce the impacts of stormwater runoff from hard surfaces and land cover conversions.

Standard flow control is not required based on the thresholds defined in section 2.4.7.2 of the Manual. Further discussion is provided in Section 4 of the SSP.

Minimum Requirement #8: Wetland Protection. Stormwater flows will discharge into onsite wetlands, either directly or indirectly, through a conveyance system to address minimum Requirements #4, #5, and #7.

Minimum Requirement #9: Operation and Maintenance. An operation and maintenance (O&M) manual that is consistent with the provisions within the Ecology Manual shall be provided for all proposed stormwater facilities and BMPs, and the party (or parties) responsible for maintenance and operation shall be identified.

This requirement is addressed in Section 8 and Appendix B.

This SSP has been organized into sections corresponding to guidance found in Chapter 3.1.7 of Volume I of the Ecology Manual. The sections address the above COI minimum requirements for stormwater mitigation for the Project, as identified in the descriptions below:

Section 1: Project Overview – This section introduces the Project and defines this document as the SSP; therefore, satisfying Minimum Requirement #1.

Section 2: Existing Conditions Summary – This section summarizes the existing conditions and addresses Minimum Requirement #8.

Section 3: Offsite Analysis – This section qualitatively assesses the potential offsite water quality, erosion, slope stability, and drainage impacts associated with the Project and proposed mitigation of those impacts.

Section 4: Permanent Stormwater Control Plan – This section describes the onsite stormwater control BMPs for flow control and treatment that will serve the Project in its developed condition. This section addresses Minimum Requirements #4, #5, #7, and #8.

Section 5: Construction SWPPP and Source Control – This section discusses the Project construction SWPPP and addresses Minimum Requirement #2.

Section 6: Special Reports and Studies – This section summarizes pertinent special reports and studies conducted to prepare this SSP.

Section 7: Other Permits – This section lists other necessary permits and approvals as required by other regulatory agencies that affect the drainage plan or contain more restrictive drainage-related requirements.

Section 8: Operations and Maintenance – This section discusses O&M for the Project and addresses Minimum Requirement #9.

Cited references are provided at the end of the report.

Section 2: Existing Conditions Summary

COI acquired a Washington State Department of Transportation (WSDOT) parcel (Parcel 2724069126) as the pump station site as shown on Figure 1.

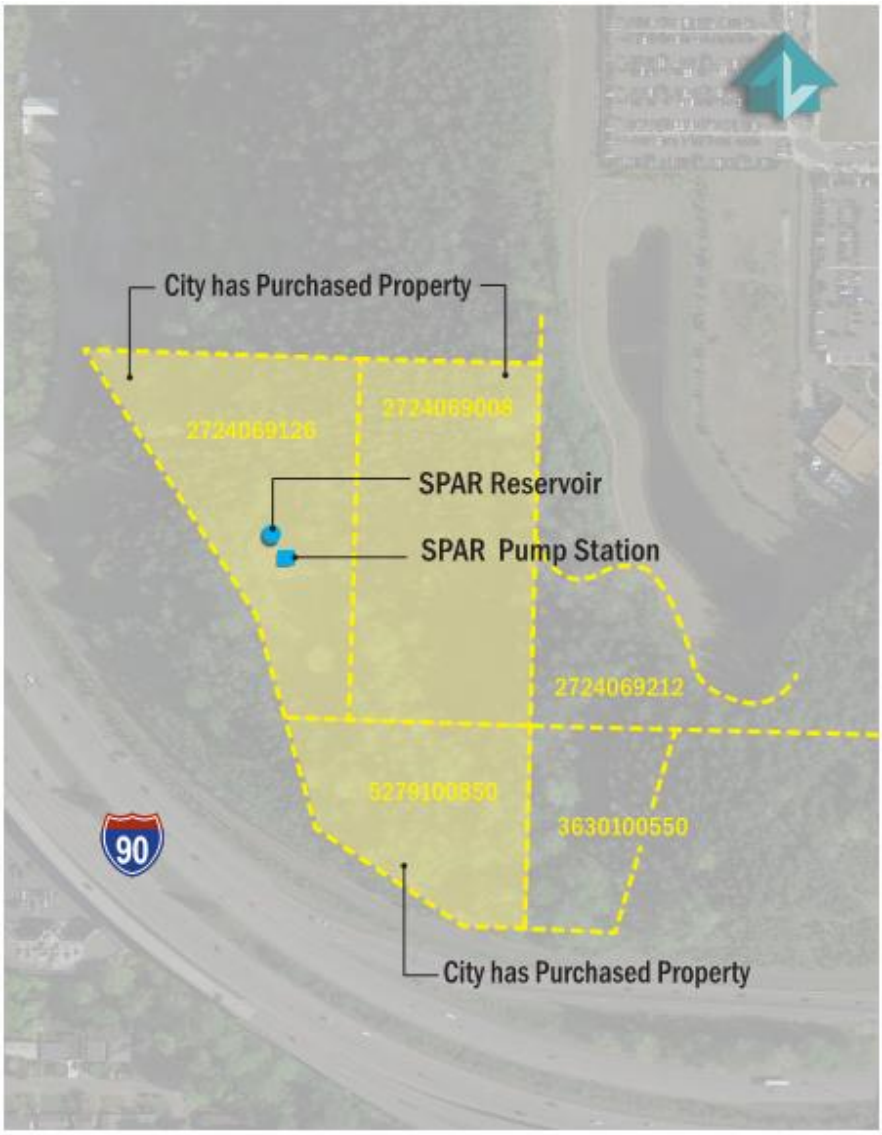


Figure 1: Project Location

The parcel is located adjacent to the northern side of I-90, immediately west of the Sunset Interchange (I-90 Exit 18). The parcel will provide space for the SPAR Pump Station and Reservoir, and currently has a relatively flat benched area with an approximate ground elevation of 260 feet. See Figure 2 for an overview of the 7.3-acre project site.

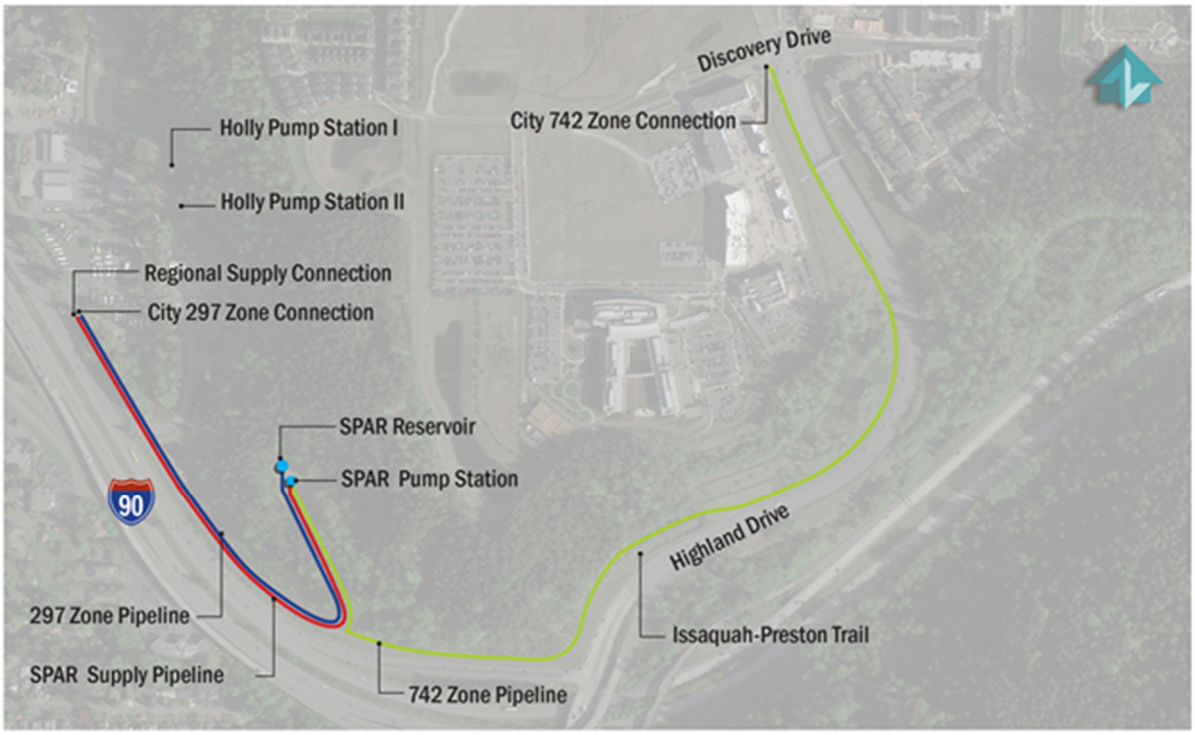


Figure 2: Project Vicinity Map and Components

Access to the site will be along the alignment of an existing gravel access road from the Issaquah-Preston Trail off 1st Avenue NE. A nearly 180-degree turn is required to follow the access road from the trail. A pull-in area will be provided to allow longer vehicles to make a multi-point turn to access the road.

The existing conditions of the Project, are as follows and as shown in the Design Drawings (see Appendix C):

1. An existing flat benched area located near the central part of the project area, is to be regraded and resurfaced prior to installation of the new pump station and future reservoir. Stormwater will be conveyed via sheet flow and through ditches to dispersion BMPs overland flow to rock pads for treatment.

2. An existing maintenance access road will be regraded and resurfaced to provide access to the proposed pump station and future reservoir.

The existing topography at the proposed pump station site consists of shallow surface slopes that range from 1 to 3% and adjacent slopes above and below the project site that range from 5 to 30+%.

The existing site is largely in forested condition. A tree survey was performed and impact to existing vegetation was considered during Project design and will be reduced to the greatest extent practicable.

Wetlands exist onsite and stormwater will be managed to discharge into the existing wetlands with the goal of maintaining their existing hydrologic function.

Section 3: Offsite Analysis

Offsite flow impacts to the Project area, in terms of water quality, erosion, slope stability, and drainage, have not been observed based on numerous site inspections performed by Kennedy Jenks. Site inspections were performed in May 2014, April 2015, June 2015, and July 2015. Site topography survey was also collected.

Based on results of site inspections and survey evaluation, flows from areas from the western portion of the Project area are directed via sheet flow towards the slope above the Issaquah-Preston Trail. Stormwater flows from the eastern side of the Project area sheet flow through native vegetation and either drain to existing site wetlands, sheet flow across the project site and, to a lesser extent, drain down the existing maintenance access road towards the Issaquah-Preston Trail and ultimately into existing catch basins and storm drainage infrastructure.

Regarding Issaquah Code language (IMC 18.10.590) that defines alteration of critical area, is as follows:

"Alteration: Any human-induced action which adversely impacts the existing condition of a critical area. Alterations include, but are not limited to, grading; filling; dredging; draining; channeling; cutting, pruning, limbing or topping, clearing, relocating or **removing vegetation**; applying herbicides or pesticides or any hazardous or toxic substance; **discharging pollutants (excluding treated storm water)**; grazing domestic animals; paving (including construction and application of gravel); modifying for surface water management purposes; or any other human activity that adversely impacts the existing **vegetation**, **hydrology,** wildlife or wildlife habitat. Alteration does not include walking, passive recreation, fishing or other similar activities."

Based on the code, the only potential for alterations to a wetland/stream buffer is from the highlighted elements above. Although the project will have permanent impacts on 23,659SF of wetland/stream buffer impacts and of temporary buffer impacts of 9,593 SF, compensatory mitigation is being provided at a greater than 1:1 ratio and will include 23,982 SF of wetland and stream buffer enhancements within the existing buffers of Wetlands B and C and Stream 3, consisting of the planting of native tree and shrub species. All temporarily impacted wetland/stream buffer areas will be fully revegetated, as well. The document *South Spar Booster Pump Station - Critical Areas Report and Mitigation Plan* (ESA, 2019) has further details on critical areas impacts and proposed mitigation measures. In addition, the project plan bid set includes complete mitigation plans, plant quantities, and specifications for all stream and buffer mitigation, as well as for mitigation of significant trees.

Although the project does not involve clearing or grading of any wetland or stream, stormwater from 9,800 sf the upper (northern) drainage basin will follow the existing natural drainage path and flow into the buffer of Wetland B. Some amount of the flow would likely enter Wetland B, which in turn has a hydrologic connection to Stream 2 and Wetland C. Issaquah code on facilities allowed in wetland buffers (18.10.610.B.4) states:

"Surface water discharge to a wetland from a stormwater facility or other surface water management activity or facility may be allowed if the discharge enhances the wetland and/or

does not increase the rate of flow, change the plant composition in a forested wetland, or decrease the water quality of the wetland"

The discharge of stormwater into the Wetland B buffer will not increase the rate of flow, change the plant composition, or decrease the water quality within Wetland B or its buffer, for the following reasons.

- The new paved roadway replaces a compacted gravel access road, which is effectively impervious surface. Under existing conditions, stormwater falling on the access road sheet flows to the west, entering the buffer of Wetland B. The project will not alter existing flow paths or result in a substantial increase in the amount of effective impervious surface draining to the wetland buffer.

- As with existing conditions, much of the stormwater entering the buffer of Wetland B, will be intercepted by vegetation or infiltrated into native soils. The quantity and quality of vegetation in the buffer will be enhanced through compensatory mitigation in these areas, maintaining, or very likely enhancing infiltration and interception efficiencies in the buffer.

- Although paved, the new access road in not considered pollution generating impervious surface (PGIS), based on the infrequent use. As the new paved and gated access road will have a traffic volume of one trip per week , it is considered an "infrequency used maintenance access road". With such low vehicle usage, the potential for the impervious area to measurably add to the amount of suspended sediment, or total or dissolved metals, or other potentially harmful stormwater constituents conveyed to the wetland and wetland buffer is discountable. No negative effects on water quality are expected within Wetland B, its buffer, or downstream areas.

- Hydrology in Wetland B is supported by a high groundwater table and precipitation, with portions of the wetland seasonally inundated. The wetland serves as the headwaters for Stream 2. Compared to existing conditions, no significant changes in wetland hydrology are expected from the sheet flow of stormwater from the paved access road into the wetland buffer. Even if there was a very slight increase in the quantity of water delivered, it would be insignificant in comparison to the groundwater inputs the wetland receives under existing conditions.

Based on the project elements, as proposed (including the proposed stormwater element), the project will not negatively affect the structure or function of Wetland B or any other hydrologically connected wetlands and streams, thereby meeting all requirements of IMC 18.10.

Section 4: Permanent Stormwater Control Plan

The permanent stormwater control plan was developed with the goal of maintaining natural drainage patterns and discharges from the project site. Runoff discharged from the project site is not anticipated to cause significant adverse impact to the downstream receiving waters and down gradient properties.

Two TDAs have been identified as Area 1 and Area 2 on the Drainage Plan included as Appendix E.

Area 1 consists of the pump station roof and surrounding impervious surfaces and will drain to existing wetlands. The effective impervious surface within Area 2 is approximately 9,800 square feet (sf). Flows will be dispersed at the impervious surface edge in accordance with BMP T5.12 Sheet Flow Dispersion. The transition zone will consist of an extension of the subgrade material.

Guide Sheets #1 through #3 in Appendix I-C of the SWMMWW were reviewed to address Minimum Requirement #8. It was found that the criteria under sections I-C.2, I-C.3 a hydrologic evaluation was not necessary because the Threshold Discharge Area (TDA) is less than 10,000 sf.

Area 2 consists of the lower portion of the maintenance access road and turn around area adjacent to the Issaquah-Preston Trail. The effective impervious surface within Area 2 is approximately 8,700 sf.

Flows will be managed from Area 2 such that discharges will not exceed an increase of 0.15 cubic feet per second (cfs) when comparing post-project runoff to the existing condition runoff as estimated using the Western Washington Hydrology Model (WWHM) using 15-minute time steps. The estimated flow increase from WWHM is 0.10 cfs. WWHM output reports are provided as Appendix D.

Because the thresholds in Section 2.4.7.2 of the Manual were not met for both TDAs, Standard Flow Control as defined in Section 2.4.7.3 of the manual is not required. Consequently, compliance with the Low Impact Development (LID) performance standard is also not applicable (Ecology 2014).

The proposed regrading and resurfacing improvements and implementation of the proposed BMPs address Minimum Requirements #4, #5, #7, and #8.

See Appendix E for further detail regarding existing and proposed drainage basins and associated characteristics.

Section 5: Construction SWPPP and Source Control

A construction SWPPP (Minimum Requirement #2) meeting the Ecology Manual and the Manual requirements will be prepared by others and provided under separate cover.

Section 6: Special Reports and Studies

This SSP and associated Design Drawings (Appendix C) were prepared using Icicle Creek Engineer's geotechnical engineering design recommendations, including the following related to stormwater:

- Icicle Creek Report dated 28 February 2017 states "alterations shall minimize disturbance to the landslide hazard area, slope and vegetation unless necessary for slope stabilization; and the proposed alteration will not decrease slope stability on contiguous properties; and the risk of property damage or injury resulting from landsliding is eliminated or minimized". Landslide areas are as identified in Figure 6 (Critical Areas Map) and Figure 7 (Topographic Plan), and stormwater has been routed to avoid these areas. Refer to Project Drawings G11-G13, EC01-EC08, and C2-C9.

- Icicle Creek Report Addendum dated 11 October 2019 includes an updated Critical Areas Map (Attachment D).

- Icicle Creek Report Adduend dated 21 January 2021 includes an updated Site Plan and Critical Areas Map (Attachment A) and Pump Station Plan.

No known formally adopted and Ecology-approved basin and/or watershed plans exist for the Project area.

Section 7: Other Permits

As indicated in Section 1: Project Overview, this SSP is intended to satisfy the COI Stormwater Permit Submittal Requirements.

Section 8: Operations and Maintenance

An O&M manual for BMP T5.12 meeting Minimum Requirement #9 can be found in Appendix B.

References

City of Issaquah. (Manual 2016). 2017 Stormwater Design Manual Addendum 07 November 2016. https://www.issaquahwa.gov/DocumentCenter/View/4458.

Icicle Creek Engineers, Inc. (Icicle Creek Engineers). 2017. Report Geotechnical Engineering Services and Critical Areas Evaluation South SPAR Zone 297 Reservoir, Booster Pump Station and Water Line Issaquah, Washington, Prepared for Kennedy/Jenks Consultants. No. 0101-013. 28 February 2017.

Icicle Creek Engineers, Inc. (Icicle Creek Engineers). 2019. Report Addendum, Geotechnical Engineering Services, Proposed South SPAR Booster Pump Station, Interstate 90 Sunset Interchange Area, Issaquah, Washington. No. 0101-013. 11 October 2019.

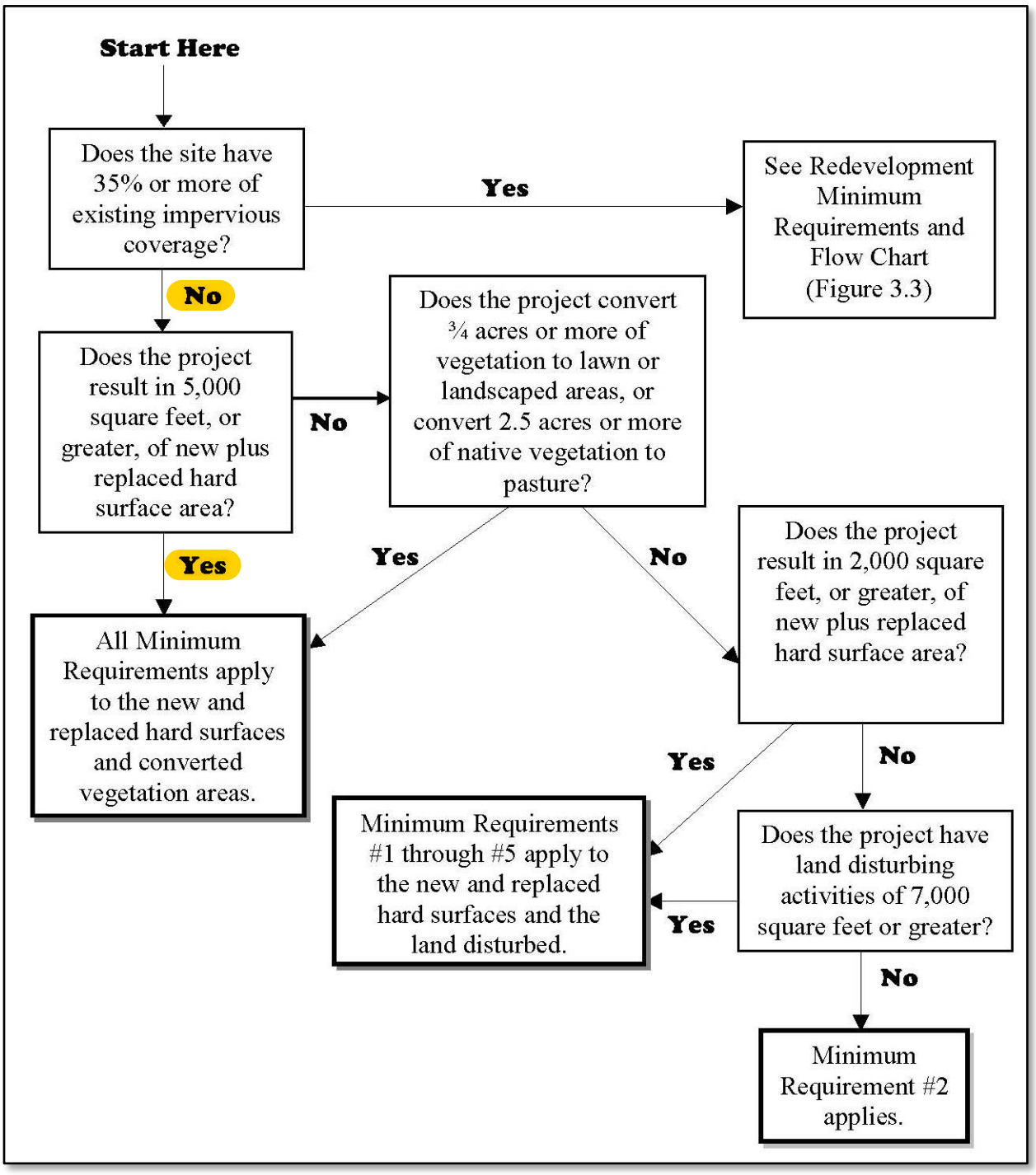
Icicle Creek Engineers, Inc. (Icicle Creek Engineers). 2021. Report Addendum, Critical Areas Evaluation, Proposed South SPAR Booster Pump Station and 297/520 Zone and 742 Zone Water Lines, Interstate 90 Sunset Interchange Area, Issaquah, Washington. No. 0101-013. 22 January 2021.

Washington State Department of Ecology. 2014. Stormwater Management Manual for Western Washington. Washington State Department of Ecology Water Quality Program. Publication Number 14-10-055. December.

Appendix A

Flow Chart for Determining Requirements for Redevelopment

Figure 2.3. Flow Chart for Determining Requirements for New Development



Appendix B

Operations and Maintenance Manual

Kennedy Jenks

32001 32nd Avenue South, Suite 100
Federal Way, Washington 98001
253-835-6400

Operations and Maintenance Manual

City of Issaquah
SPAR Booster Pump Station

30 November 2020

Prepared for

City of Issaquah
1775 12th Ave NW
Issaquah, WA 98027

KJ Project No. 1397005*00

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List of Attachments

Section 1: Facility Description

Kennedy/Jenks Consultants, Inc. (Kennedy Jenks) has developed this Operations and Maintenance (O&M) Manual on behalf of the City of Issaquah (COI) for the SPAR Booster Pump Station (SPAR Pump Station) and Transmission Main that will serve the Highlands Central Park 742 Zone.

The SPAR Pump Station will use BMP T5.12: Sheet Flow Dispersion to meet stormwater treatment requirements in accordance with the Stormwater Management Manual for Western Washington (SWMMWW) (Ecology, 2014).

Sheet flow dispersion will be accomplished by diverting flows from hard surfaces to a 2-foot-wide transition zone and ultimately into on-site wetlands. The transition zone will consist of roadbed material (crushed rock).

This O&M Manual will be made available for inspection by local government, as needed, and kept at the following location:

City of Issaquah
670 1st Avenue NE
Issaquah, Washington 98027

Section 2: Maintenance Activities

Maintenance of the sheet flow dispersion systems is vital to the longevity and the expected treatment performance of the systems. The Maintenance Activity Log describing the recommended maintenance tasks and the frequency of each task in accordance to standards established in the Ecology Manual can be found in Attachment A.

Section 3: Responsible Parties

The responsible party for ensuring proper maintenance of the sheet flow dispersion systems is listed below. In the event the responsible party is altered, a revised O&M Manual indicating the new responsible party will be provided.

Robert York, P.E.
Utilities Engineering Manager
City of Issaquah
roberty@issaquahwa.gov
425-837-3449

References

Washington State Department of Ecology. 2014. Stormwater Management Manual for Western Washington. Washington State Department of Ecology Water Quality Program. Publication Number 14-10-055. December.

Attachment A

Maintenance Activity Log

SPAR Pump Station - Sheet Flow Dispersion Systems
Maintenance Activity Log

Frequency	System Component	Defect	Condition Triggering Maintenance	Maintenance Activities and Resulting Conditions	Inspection Date and Weather	Condition Observed	Action Taken and Observed Result
Sheet Flow Dispersion							
Annually	Transition Zone	Erosion	Adjacent soil erosion; uneven surface creating concentrated flow discharge; or less than 2 feet of width.	Repair/replace transition zone to meet design criteria and eliminate concentrated flows.			
Dispersal Area							
Biannually and After Major Storm Events	Dispersal area (general)	Erosion	Erosion (gullies/rills) greater than 2 inches deep in dispersal area.	Eliminate cause of erosion and stabilize damaged area (regrade, rock, revegetate).			
Biannually and After Major Storm Events	Dispersal area (general)	Erosion	Accumulated sediment or debris to extent that blocks or channelizes flowpath.	Remove excess sediment or debris. Identify and control the sediment source (if feasible).			

Appendix C

90% Design Drawings

CITY OF ISSAQUAH

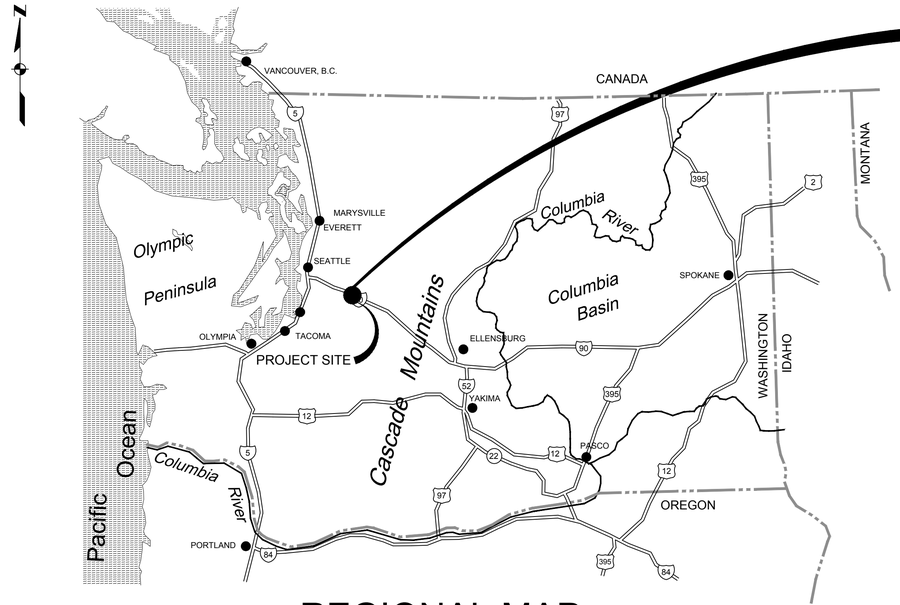
ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

THIS SUBMITTAL ADDRESSES COMMENTS FROM THE CITY OF ISSAQUAH PLANNING DEPARTMENT ON THE PERMIT SUBMITTAL DRAWING SET DATED 11/30/2020. SELECTED DRAWINGS HAVE BEEN UPDATED AS REQUIRED TO ADDRESS THESE COMMENTS, DRAWINGS DIRECTLY ADDRESSING THE REVIEW COMMENTS INCLUDE:

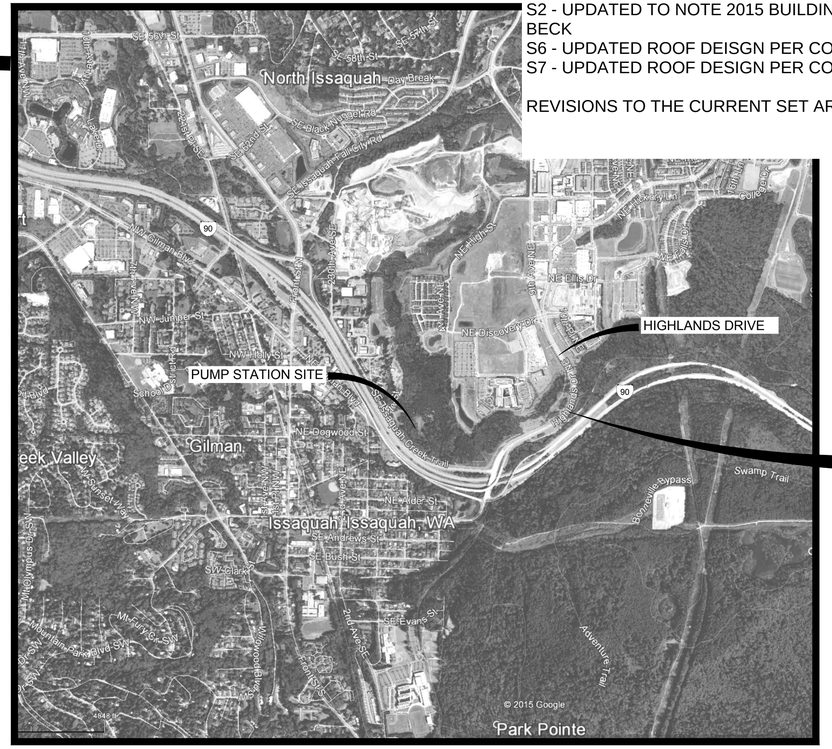
G2 - UPDATED SHEET LIST TO INCLUDE ADDITIONAL DRAWINGS
G12 - ADDED NEW DRAWING "DRAINAGE PLAN" WHICH DEPICTS STORMWATER INFORMATION REQUESTED IN COMMENTS FROM CITY REVIEW.
G13 - ADDED NEW DRAWING "CRITICAL AREAS MAP" IN RESPONSE TO COMMENT 4 BY WOOD E&IS
S1 - UPDATED TO NOTE 2015 BUILDING CODE PER COMMENT FROM DOUGLAS BECK
S2 - UPDATED TO NOTE 2015 BUILDING CODE PER COMMENT FROM DOUGLAS BECK
S6 - UPDATED ROOF DEISGN PER COMMETNS FROM DOUGLAS BECK
S7 - UPDATED ROOF DESIGN PER COMMENTS FROM DOUGLAS BECK

REVISIONS TO THE CURRENT SET ARE CLOUDED IN RED



REGIONAL MAP

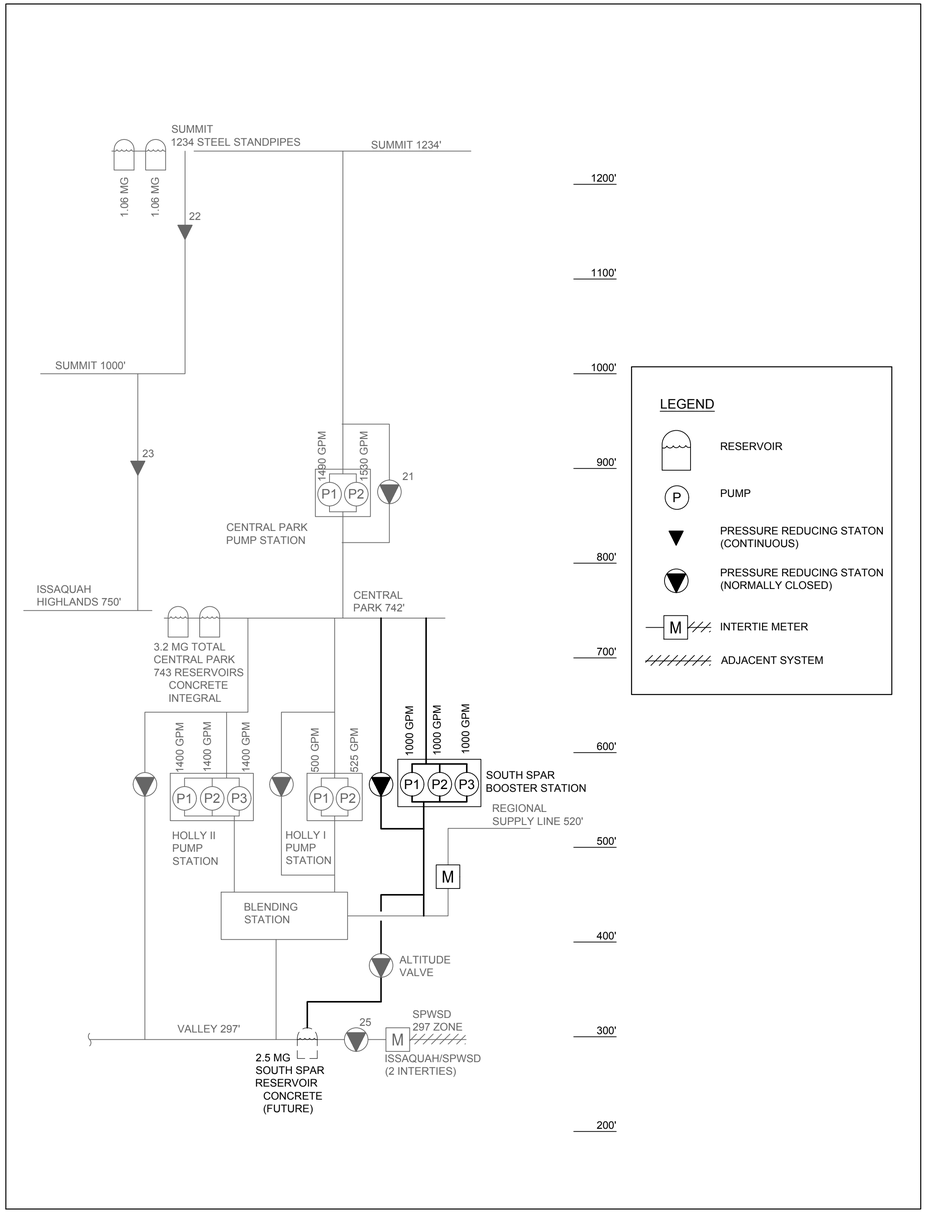
WSDOT I-90 ROW: BEGIN PROJECT AT MILE POST 17.61 AND EN



VICINITY MAP

REVISED SUBMITTAL 02/23/2021

Kennedy/Jenks Consultants
32001 32ND AVENUE SOUTH, SUITE 100
FEDERAL WAY, WASHINGTON 98001
253.835.6400
1397005*00



PARTIAL HYDRAULIC PROFILE

BASIS OF DESIGN

DESCRIPTION	UNIT	VALUE
BOOSTER PUMPS		
PUMP TYPE	VERTICAL TURBINE PUMP	
NUMBER OF PUMPS	EACH	3
FIRM CAPACITY (2 PUMPS)	GPM	2000
297 ZONE		
TDH	FT	550
MOTOR	HP	200
520 ZONE		
TDH	FT	330
MOTOR	HP	125

NOTE: CURRENT INSTALLATION PROVIDES ONE PUMP SIZED TO PUMP FROM 297 ZONE, AND TWO PUMPS SIZED TO PUMP FROM 520 ZONE. 520 ZONE PUMPS CAN BE UPGRADED IN THE FUTURE.

SITE INFORMATION:

ADDRESS	614 SE 74TH STREET, ISSAQUAH, WA 98027
DEVELOPABLE SITE AREA	2.7 AC
GROSS SITE AREA	7.3 AC
PARCEL NUMBER	272406-9126 AND 527910-0850
ZONING	CF-F AND CF-OS
EXISTING IMPERVIOUS AREA	0.01 AC
PROPOSED IMPERVIOUS AREA	0.47 AC

DRAWING COUNT	DRAWING NUMBER	DRAWING TITLE
1	G1	TITLE, REGIONAL MAP AND VICINITY MAP
2	G2	SHEET LIST, BASIS OF DESIGN, PARTIAL HYDRAULIC PROFILE, AND SURVEY INFORMATION
3	G3	ABBREVIATIONS
4	G4	CIVIL GENERAL SYMBOLS AND NOTES
5	G5	PIPING SYMBOLS, NOTES, AND SCHEDULE
6	G6	CITY STANDARD DETAILS
7	G7	CITY STANDARD DETAILS
8	G8	WSDOT STANDARD DETAILS
9	G9	WSDOT STANDARD DETAILS
10	G10	WSDOT STANDARD DETAILS
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39	CP3	297/520 ZONE AND 742 ZONE PIPELINES PLAN AND PROFILE STA. 19+88.60 TO STA. 25+34.25
40	CP4	742 ZONE PIPELINE PLAN AND PROFILE STA. 50+00 TO STA.58+00
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NO.	REVISION	DATE	BY

SCALES
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IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SHEET LIST, BASIS OF DESIGN, PARTIAL HYDRAULIC PROFILE, AND SURVEY INFORMATION

FILE NAME 139700500-G002.DWG
JOB NO. 1397005*00
DATE FEBRUARY 2021
SHEET G2 OF

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ABBREVIATIONS

&	AND
∠	ANGLE
±	APPROXIMATELY
@	AT
℄ ℄	CENTERLINE
△	DEFLECTION
°	DEGREE
=	EQUALS
'	FOOT
>	GREATER THAN
"	INCH
Ø	PHASE
<	LESS THAN
#	NUMBER
%	PERCENT
A	AREA
AB	ANCHOR BOLT(-S)
ABAN	ABANDON (-ED)
ABS	ABSOLUTE
A.B.S.	ACRYLONITRILE-BUTADIENE-STYRENE
AC	ACRE, ASPHALTIC CONCRETE
A.C.	ASBESTOS CEMENT
A/C	ASPHALT CONCRETE
ACOUS	ACOUSTICAL
ACT.	ACTIVATE
ADDL, ADDIT	ADDITIONAL
ADJ	ADJUST(-ED,-MENT,-ABLE)
ADJT	ADJACENT
ADWF	AVERAGE DRY WEATHER FLOW
AF	ACRE-FEET
AFD	ADJUSTABLE FREQUENCY DRIVE
AGG	AGGREGATE
AHU	AIR HANDLING UNIT
AIR-CON	AIR CONDITION (-ER,-ING)
AIRVAC	AIR AND VACUUM VALVE
AL, ALUM.	ALUMINUM
ALT	ALTERNAT(-E,-IVE)
ALTD	ALTITUDE
ANC, ANCH	ANCHOR
ANSI APPROX	AMERICAN NATIONAL STANDARD INSTITUTE APPROXIMAT(-E,-LY)
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH.	ARCHITECT (-URAL)
ARV	AIR RELEASE/RELIEF VALVE
ASB	ASBESTOS
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING & AIR CONDITIONING ENGINEERS
ASPH	ASPHALT
ASST	ASSISTANT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ATM	ATMOSPHERE (14.7 LB/IN SQ)
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AVV	AIR AND VACUUM RELIEF VALVE
BARM	BARMINUTOR
BC	BEGINNING OF HORIZONTAL CURVE
BCV	BALL CHECK VALVE
BD	BOARD
BF, B.F.	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BIO	BIOFILTER
BIOL	BIOLOGICAL
BITUM	BITUMINOUS
BL	BUILDING LINE
BLDG	BUILDING
BLK	BLOCK(-S)
BLKG	BLOCKING
BM	BEAM, BENCHMARK
B.M.	BENCH MARK
BO	BLOWOFF
BOD 5	BIOCHEMICAL OXYGEN DEMAND (5 DAY)
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BRG	BEARING
BS	BLACK STEEL
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BTWN	BETWEEN
BV	BALL VALVE
BVC	BEGINNING OF VERTICAL CURVE
B&S	BALL AND SOCKET
°C	DEGREES CELSIUS (CENTIGRADE)
C	CONDUIT
CAB.	CABINET
CAV	COMBINATION AIR VALVE
CB	CATCH BASIN
CC	CENTER TO CENTER
CCP	CONCRETE CYLINDER PIPE
CCWR	CLOSED-LOOP COOLING WATER RETURN
CCWS	CLOSED-LOOP COOLING WATER SUPPLY
CEM	CEMENT
CEN	CENTRAL
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHAMBER
CHAN	CHANNEL
CHEM	CHEMI (-CAL,-STRY)
CHK'D	CHECKED
CHKR	CHECKERED
CI	CAST IRON
CIP	CAST IRON PIPE
CIRC	CIRCULA(-R,-TION)
CIRCUM	CIRCUMFERENCE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	PIPE CLASS
CL ℄	CENTERLINE
CL2	CHLORINE
CLASS.	CLASSIFICATION
CLG	CEILING
CLOS	CLOSET
CLR	CLEAR (-ANCE)
CM 3	CUBIC CENTIMETER
CM 2	SQUARE CENTIMETER
CM	CENTIMETER
CMC	CEMENT MORTAR COATED
CML	CEMENT MORTAR LINED
CML&C	CEMENT MORTAR LINED & COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT(-S)
CNTR	COUNTER
CNTRSK	COUNTERSUNK
CO	CLEANOUT
CO2	CARBON DIOXIDE
C.O.D.	CHEMICAL OXYGEN DEMAND
COL	COLUMN
COMM	COMMUNICATION
COMP	COMPRESSOR
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECT (-S,-ION)
CONST	CONSTRUCT (-ION)
CONST JT,CJ	CONSTRUCTION JOINT
CONT	CONTINU (-ED,-OUS,-ATION)
CONTR	CONTRACTOR
COORD	COORDINATE
COR	CORNER
CORR	CORRUGATED
COUP.,CPLG	COUPLING
CP	CONTROL PANEL
CPP	CORRUGATED PLASTIC PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE
C/S, CS	CONSTANT SPEED
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CT	COURT
CTR	CENTER
CTS	CATHODIC TEST STATION
CU	COPPER
CV	CHECK VALVE
CW	COLD WATER, CITY WATER
CWT	ONE HUNDRED POUNDS
CY	CUBIC YARD
D, DR	DRAIN
DBL	DOUBLE
DEG	DEGREE(-S)
DEMO, (D)	DEMOLISH
DET, DTL	DETAIL(-S)
DF	DOUGLAS FIR; DRINKING FOUNTAIN
DGRM	DIAGRAM
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL(-S)
DIAPH	DIAPHRAGM
DIM.	DIMENSION(-S)
D.I.P., DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DIST	DISTRIBUTION
DN	DOWN
D.O.	DISSOLVED OXYGEN
DR	DOOR
DRG	DOUBLE RUBBER GASKET JOINT
DS	DOWN SPOUT
DUP	DUPLEX
DWG(S)	DRAWING(-S)
E	ELECTRIC, EAST
EA	EACH
EC	END OF HORIZONTAL CURVE
ECC	ECCENTRIC
ECD	EPOXY COATED
EF	EACH FACE; EXHAUST FAN
EFFIC	EFFICIENCY
EFFL, EFF	EFFLUENT
e.g.	FOR EXAMPLE
EGL	ENERGY GRADE LINE
E.L.	EPOXY LINED
EL, ELEV.	ELEVATION
ELB, ELL	ELBOW
EL&C	EPOXY LINED & COATED
ELEC	ELECTRIC (-AL)
ELEM	ELEMENTARY
EMERG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EP, EOP	EDGE OF PAVEMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQ	EQUAL (-LY)
EQUAL., EQ.	EQUALIZATION
EQUIP	EQUIPMENT
EST	ESTIMATE (-D)
ETC	ET CETERA
EUC	EUCALYPTUS
EXC	EXCAVATE
EXH	EXHAUSTER (-S)
EXIST., (E)	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR, EXTENSION
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EW/EF	EACH WAY EACH FACE
E.W.S.	EYEWASH/SHOWER
F	FUTURE
°F	DEGREE FAHRENHEIT
FT	FEET, FOOT
FA	FIRE ALARM
FAB	FABRICATE(-D)
FAC	FACTORY
FACIL	FACILITY (-IES)
FAI	FRESH AIR INTAKE
FB	FLAT BAR
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FCV	FLOW CONTROL VALVE
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDR	FEEDER
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FF	FAR FACE, FINISH FLOOR
FG	FLAP GATE
FH	FIRE HYDRANT, FLAT HEAD
FIG.	FIGURE
FILT	FILTER
FIN.	FINISH(-ED)
FIN. GD	FINISH GRADE
FL	FLOW LINE
FLASH.	FLASHING
FLEX	FLEXIBLE
FLG, FL	FLANGE(-D)
FLR	FLOOR
FLUOR	FLUORESCENT
FM	FLOW METER, FORCE MAIN
FOB	FLAT ON BOTTOM
FOS	FACE OF STUD
FOT	FLAT ON TOP
FRC	FLEXIBLE RUBBER COUPLING
FREQ	FREQUENCY
FRP	FIBERGLASS REINFORCED PLASTIC
FSS	FIBERGLASS STRUCTURAL SHAPE
FT	FEET
FT 3	CUBIC FEET
FT 2	SQUARE FEET
FTG	FOOTING
FURN	FURNACE
FURR	FURRING
FUT, (F)	FUTURE
FWD	FORWARD
G	GAS
GA	GAUGE
GAL	GALLON (-S)
GALV	GALVANIZE(-D)
GASO	GASOLINE
GC	GROOVED COUPLING
GDL	GROUND LEVEL
GEN	GENERATOR
GENL	GENERAL
GL	GLASS
GLV	GLOBE VALVE
GLL	GLASS LINED
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRADE, GROUND, GRAM
GRL	GUARDRAIL
GS	GALVANIZED STEEL
GV	GATE VALVE
GYP BD	GYPSUM BOARD
H	HIGH
HB	HOSEBIBB
HC	HEAT CONSERVATION
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HGR	HANGER
HGT, HT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPT, H.P.	HIGH POINT
HR	HOUR
HRL	HANDRAIL
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HVY	HEAVY
HW	HOT WATER
HWD, HDWD	HARDWOOD
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRAULIC
HZ	HERTZ
I & C	INSTRUMENTATION AND CONTROLS
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
I.F.	INSIDE FACE
IN 3	CUBIC INCHES
IN 2	SQUARE INCHES
IN	INCH (-ES)
INFL, INF	INFLUENT
INSTR	INSTRUMENT
INSUL	INSULAT(-E,-ION)
INT	INTERIOR
INV	INVERT
IPS	INTERNATIONAL PIPE STANDARD
IW	INDUSTRIAL WASTES
JAN	JANITOR
JB, J-BOX	JUNCTION BOX
JST	JOIST
JT	JOINT
KG	KILOGRAM; KNIFE GATE
KIP	ONE THOUSAND POUNDS
Km	KILOMETER
KV	KILOVOLTS
KVA	KILOVOLT-AMPERES
KW	KILOWATT
L	LENGTH; LITER
LAB	LABORATORY
LAM	LAMINATE
LAT	LATERAL
LAV	LAVATORY
LB	POUND(-S)
L/D	LITERS PER DAY
LDG	LANDING
LE	LIFTING EYE
LEL	LOWER EXPLOSION LIMIT
LF	LINEAR FEET
LG	LONG
LGT	LIGHT
LH	LEFT HAND
LIQ	LIQUID
LL	LIVE LOAD
LLV	LONG LEG VERTICAL
LO	LIVE OAK
LOC	LOCATION
LONG.	LONGITUDINAL
LP	LOW POINT
LPC	LOW PRESSURE CONDENSATE
LPG	LIQUIFIED PETROLEUM GAS (PROPANE OR BUTANE AS NOTED)
LPS	LOW PRESSURE STEAM
LS	LIMIT SWITCH
LT	LEFT
LT.WT.	LIGHT WEIGHT
LTG	LIGHTING
LW	LOW WATER
LWL	LOW WATER LEVEL
(M)	MODIF (-Y, -IED)
M 3	CUBIC METERS
M 2	SQUARE METERS
M	METER
MACH., MACH	MACHINE
MATL, MAT'L	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MET.	METAL
MFR	MANUFACTURER
MG	MILLIGRAMS
M.G.	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MG/L	MILLIGRAMS PER LITER
MH	MANHOLE
MIL(S)	1/1000 INCH
MIN	MINIMUM; MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MILLILITER(-S)
MM	MILLIMETER(-S)
MODIF	MODIFICATION(-S)
MON	MONUMENT
MPH	MILES PER HOUR
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
MUL	MULLION
MV	MUD VALVE
MX	MIXER
N	NORTH
(N)	NEW
N/A	NOT APPLICABLE
NAT G, NG	NATURAL GAS
N.C., NC	NORMALLY CLOSED
NE	NORTHEAST
NEUT	NEUTRAL
NF	NEAR FACE
NG	NATURAL GAS
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC, N.I.C.	NOT IN CONTRACT
N.O., NO	NORMALLY OPEN
NO.	NUMBER
NOM	NOMINAL
NORM	NORMAL
NPW	NON-POTABLE WATER
NRS	NON-RISING STEM (VALVE)
NST	NATIONAL STANDARD THREAD
NT	NORMALLY THROTTLED
NTS	NOT TO SCALE
NV	NEEDLE VALVE
NW	NORTHWEST
NWL	NORMAL WATER LEVEL
OA	OVERALL
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
O/C	OPEN/CLOSE SERVICE
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OF., OF	OVERFLOW
OFF.	OFFICE
OFS	OUTSIDE FACE OF STUD
O.H.	OVERHEAD
OL	OVERLOAD
OPNG	OPENING
OPER	OPERATOR
OPP	OPPOSITE
ORIG	ORIGINAL
OS&Y	OUTSIDE SCREW & YOKE (RISING STEM-VALVE)
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
OZ	OUNCE(-S)
P	PIPE
PC	PIECE
P.C.	POINT OF HORIZONTAL CURVE
PCC	POINT OF COMPOUND CURVE
PCF	POUNDS PER CUBIC FEET
PCO	PRESSURE CLEANOUT
PDV	PLUG DRAIN VALVE
P.E., PE	PLAIN END
PE, POLY	POLYETHYLENE
PERIM	PERIMETER
PEN.	PENETRATION
PERF	PERFORAT(-E, -ED, -ES, -ATION)
PF	PROFILE
PG	PRESSURE GAUGE
PH	PIPE HANGER
PHMS	PAN HEAD MACHINE SCREW
P.I.	POINT OF HORIZONTAL INTERSECTION
P & ID	PROCESS (OR PIPING) & INSTRUMENTATION DIAGRAM
PIV	POST INDICATOR VALVE
PIP	PLASTIC IRRIGATION PIPE
P.L., P/L	PROPERTY LINE
PL, P	PLATE
PLAS	PLASTER
PLCS	PLACES
PLY.	PLYWOOD
PNL	PANEL
P.O.C.	POINT OF CONNECTION
P.O.T	POINT OF TANGENCY
PP	PAGES, PERSONEL PROTECTION
P.P.	POWER POLE
PPB	PARTS PER BILLION
PPM	PARTS PER MILLION
PR	PAIR
P.R.	PULL RING
PRESS.	PRESSURE
PRFV	PRESSURE RELIEF VALVE
PRV	PRESSURE REDUCING VALVE
PRI	PRIMARY
PROJ	PROJECT(-ION)
PROP.	PROPERTY
PROT	PROTECTOR
PRS	PRESSURE SNUBBER
PRV	PRESSURE REDUCING VALVE
PS	PUMP STATION, PIPE SUPPORT
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE (PRESSURE ABOVE VACUUM)
PSIG	POUNDS PER SQUARE INCH-GAUGE (PRESSURE ABOVE ATMOSPHERE)
P.SL.	PIPE SLEEVE
P.STA.	PUMP STATION
P. SW.	PRESSURE SWITCH
PT	POINT
PV	PLUG VALVE
P.V.C.	POINT OF VERTICAL CURVE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PWWF	PEAK WET WEATHER FLOW
PVMT	PAVEMENT
PW	PLANT WATER, POTABLE WATER
PWR	POWER
Q.	FLOW OR DISCHARGE
R	RISER
R, RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REC	RECEIVING
RECIRC	RECIRCULAT(-E, -ION)
RED.	REDUCE(-R)
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGULAT(-E, -OR, -ION, -ING)
REINF	REINFORC(-E, -ED, -ING, -MENT)
REL	RELATIVE
REQD	REQUIRED
REQT	REQUIREMENT
RES, RSVR	RESERVOIR
RESIL	RESILIENT
REV	REVISION
RH	RIGHT HAND
RM	ROOM
RWD	REDWOOD
R/W	RIGHT-OF-WAY
RTN	RETURN
RTE	ROUTE
RT	RIGHT
RR	RAILROAD
RPS	REVOLUTIONS PER SECOND
RPM	REVOLUTIONS PER MINUTE
RND	ROUND
S	SEWER, SOUTH, SLOPE
SAN	SANITARY
SARV	SEWAGE AIR RELIEF VALVE
SAVV	SEWAGE AIR/VACUUM RELIEF VALVE
SCAV	SEWAGE COMBINATION AIR VALVE
SCFM	STANDARD CUBIC FEET PER MINUTE
SCHED, SCH	SCHEDULE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SEC	SECOND(-S, -ARTY)
SECT	SECTION(-S)
SED	SEDIMENTATION
SEW., SEW	SEWER
SG	SLUICE GATE
SHT, SH	SHEET
SI	SIDEWALK INLET
SIG	SIGNAL
SIM	SIMILAR
SL	SLUDGE
SMH	SANITARY SEWER MANHOLE
SO 2	SULFUR DIOXIDE
SP	STATIC PRESSURE
SP. GR.	SPECIFIC GRAVITY
SPCD	SPACED
SPCNG	SPACING
SPCS	SPACES
SPEC	SPECIFICATIONS
SQ	SQUARE
SQ FT, SF	SQUARE FEET
SQ IN	SQUARE INCHES
SRG	SINGLE RUBBER GASKET JOINT
SS	SANITARY SEWER
SS 304	STAINLESS STEEL TYPE 304
SS 316	STAINLESS STEEL TYPE 316
ST	STREET
STA	STATION
STD	STANDARD
STIFF	STIFFEN (-ER)
STL	STEEL
STORM, SD	STORM DRAIN
STM	STEAM
STN	STAINLESS
STOR	STORAGE
STRUCT	STRUCTUR(-E, -AL)
SUB	SUBNATANT
SUBM	SUBMISSION (SUBMIT)
SUP	SUPERNATANT
SUPP	SUPPORT(-S)
SURF.	SURFACE
SUSP	SUSPEND(-ED)
SV	SOLENOID VALVE
SW	SOUTHWEST; SWITCH
SWBD	SWITCHBOARD
S/W	SIDEWALK
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	TIMER, TIME, THERMOSTAT
T/	TOP OF
TAN.	TANGENT(-IAL)
TB	THRUST BLOCK
TBM	TEMPORARY BENCH MARK
T & B	TOP & BOTTOM
TC	TOP OF CURB
TBM	TEMPORARY BENCH MARK
TCE	TRICHLOROETHYLENE
TCV	TWIN ELEMENT CHECK VALVE
TDH	TOTAL DYNAMIC HEAD
TEL, TELE	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TERM.	TERMINAL; TERMINATION
TEL	TELEPHONE
TGE	TOP OF GRATING ELEVATION
T & G	TONGUE & GROOVE
THK	THICK(-ENED, -ENER, -NESS)
TOC	TOP OF CONCRETE
TOD	TOTAL OXYGEN DEMAND
TOS	TOP OF STEEL
T.O.P.	TOP OF PAVEMENT
TOPO	TOPOGRAPHY
TOS	TOP OF STEEL; TOP OF SLAB
T.O.W.	TOP OF WALL
T-__-S	TYPE ___ SUPPORT
T-__-P	TYPE ___ PIPE
TYP	TYPICAL
TURB	TURBIDITY
TS, T'STAT	THERMOSTAT
TRTMT	TREATMENT
TRANSV	TRANSVERSE
T-R	THROUGH ROOF
TR	TREAD(-S)
TP	TELEPHONE POLE
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPR	UPPER
V	VOLT
VAC	VACUUM
VAR	VARIABLE
V.A.T.	VINYL ASBESTOS TILE
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VERT	VERTICAL
VERTS	VERTICAL BARS
VEST.	VESTIBULE
VOL	VOLUME
VPI	VERTICAL POINT OF INTERSECTION
V/S, VS	VARIABLE SPEED
VT	VENT
VTR, V.T.R.	VENT TO ROOF
W	WIDTH; WIDE; WEST
W/	WITH
WC	WATER CLOSET
W CL	WATER COLUMN
WD	WOOD
WH	WATER HEATER
WM, W.M.	WATER METER
W/O	WITHOUT
WP	WEATHERPROOF
WS	WELDED STEEL, WATER SURFACE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WST	WATERSTOP
WSS	WASHINGTON STATE STANDARD WSDOT/APWA STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION
WT	WEIGHT
WTR	WATER
WTP	WATER TREATMENT PLANT
WW	WATER WASTE
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWTP	WASTEWATER TREATMENT PLANT
YD 3	CUBIC YARD
YD 2	SQUARE YARD
YD	YARD
YR	YEAR
XFMR	TRANSFORMER

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

ABBREVIATIONS

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-G003.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 3 OF 83

G3

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CIVIL/GENERAL SYMBOLS

- FIBER OPTIC (EXISTING) — FO — FO
- FIRE PROTECTION WATER (EXISTING) — FW — FW — FW
- SEWER (EXISTING) — SS — SS — SS
- STORM DRAIN (EXISTING) — SD — SD — SD
- WATER LINE (EXISTING) — W
- RECLAIMED WATER (EXISTING) — RW
- GAS LINE (EXISTING) — G — G — G — G
- TELEPHONE LINE (EXISTING) — T — T — T
- ELECTRICAL LINE (EXISTING) — E — E — E
- OVERHEAD POWER (EXISTING) — OH — OH — OH
- PUBLIC UTILITY DISTRICT (EXISTING) — PUD
- CABLE TV (EXISTING) — CTV
- CROSSING UTILITIES (EXISTING)
- FENCE — X — X
- PROPERTY LINE
- RIGHT-OF-WAY — ROW — ROW
- CONTRACTORS WORK AREA LIMITS — WA
- CENTERLINE
- CULVERT WITH END SECTIONS
- HANDRAIL OR GUARDRAIL
- WATER SURFACE
- GRADE CHANGE LINE
- RIDGE LINE
- FLOW LINE
- GRADED SLOPE — TOP, TOE
- DITCH OR SWALE
- CONTOUR MAJOR (NEW) — 110
- CONTOUR MINOR (NEW)
- CONTOUR MAJOR (EXIST) — 110
- CONTOUR MINOR (EXIST)

- BENCH MARK — BM
- SOIL BORING, IDENTIFICATION NUMBER — B-10
- SOIL TEST PIT, IDENTIFICATION NUMBER — TP-10
- SPOT ELEVATION — 10.35
- ELECTROLYSIS TEST STATION — ETS
- WATER METER — WM
- FIRE DEPT. CONNECTION
- FIRE HYDRANT
- UTILITY BOX (AS LABELED)
- POWER POLE
- STREET LIGHT
- STREET LIGHT AND TRAFFIC SIGNAL
- YARD LIGHT
- TRAFFIC SIGNAL
- TELEPHONE RISER — T RISER
- GUY ANCHOR
- CATCH BASIN — CB
- DROP INLET — DI
- CLEAN OUT — CO
- DRIVEWAY
- HANDICAP ACCESS RAMP
- CURVE NO. — 14
- SURVEY PANEL
- MONUMENT OR SURVEY POINT
- SECTION CORNER
- ELEVATION MARK (REFERENCE)
- ELEVATION MARK (DESIGN)
- FLAG NOTE — 1
- WATER GATE VALVE

- STRUCTURE OR PIPE (NEW)
- STRUCTURE OR PIPE
- DEMOLITION
- CONCRETE IN SECTION
- STEEL IN SECTION
- WOOD IN SECTION
- GRATING IN PLAN
- CHECKERED PLATE IN PLAN
- GRAVELED AREA IN PLAN OR SECTION
- SAND
- BRICK OR CONCRETE BLOCK IN SECTION
- GRADE
- FILL
- ASPHALT CONCRETE (IN PLAN)
- ASPHALT CONCRETE (IN SECTION)

NOTES:

1. THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.
2. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ABBREVIATIONS, G-3.
3. STRUCTURAL FILL OR COMPACTED FILL, WHERE CALLED OUT ON THE DRAWINGS, SHALL REFER TO MATERIAL COMPACT TO AT LEAST 95% OF ASTM D 1557 TEST METHOD.

SECTION OR DETAIL REFERENCE

SECTION (LETTER)
DETAIL (NUMERAL) — A / M2

DISIPLINE DESIGNATION USED ONLY WHEN GOING OUTSIDE DISIPLINE REFERENCED ON

DRAWING NUMBER DRAWN ON

NO.	REVISION	DATE	BY

SCALES
0 — 1"
0 — 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CIVIL GENERAL SYMBOLS AND NOTES

90% SUBMITTAL (REVISED 11/30/2020)

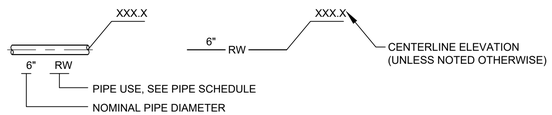
FILE NAME 139700500-G004.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET G4 OF

8/10/2020 2:46 PM
NICOLASLOZANOORDONEZ
\\kjc-local\KJC-Root\KJ-Office\FWY\CAD\CAD\113\1397005.00_City_of_Issaquah\139700500-G004.dwg

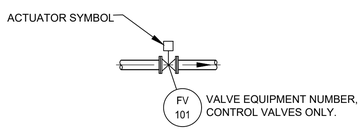
GENERAL PIPING NOTES

1. ALL PIPING, VALVES AND APPURTENANCES FOR ENTIRE PROJECT SHALL BE RESTRAINED USING APPROVED RESTRAINED-JOINT SYSTEM.
2. INFORMATION PROVIDED ON THIS SHEET ARE MINIMUM REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS. MINIMUM COVER SHALL BE 3'-0" UNLESS OTHERWISE SHOWN.
4. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
5. NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE SPECIFIED.
6. APPROPRIATE STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
7. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
8. SYMBOLS, LEGENDS, AND PIPE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS. ALL OF THE ITEMS SHOWN ARE NOT NECESSARILY USED IN THE PROJECT.
9. ALL PIPING WITH UNRESTRAINED JOINTS, SHALL BE PROVIDED WITH THRUST PROTECTION AT ALL DIRECTION CHANGES, UNLESS OTHERWISE NOTED. SEE THRUST DETAILS AND NOTES ON DRAWINGS.
10. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS ARE ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
11. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PERFORMING THE CONNECTION OF THE PIPING AND ASSOCIATED APPURTENANCES INSTALLED UNDER THIS CONTRACT TO THE EXISTING PIPING AND FACILITIES, AND TO THE WORK OF OTHER CONTRACTORS.
12. PRIOR TO SUBMITTING PIPING DRAWINGS FOR ANY NEW PIPE THAT IS TO CONNECT TO AN EXISTING PIPE OR STRUCTURE, THE CONTRACTOR SHALL EXPOSE THE EXISTING PIPE, PIPE CROSSINGS OR STRUCTURE TO VERIFY ITS EXACT LOCATION, SIZE, MATERIALS, AND INVERT ELEVATIONS.
13. ALL EXPOSED PIPING IS TO BE PAINTED AND LABELED UNLESS NOTED OTHERWISE. LABELING SHALL INCLUDE FLOW DIRECTION ARROW AND PIPE USE.
14. ALL PIPING UNDER STRUCTURES TO BE CONCRETE ENCASED UNLESS NOTED OTHERWISE.

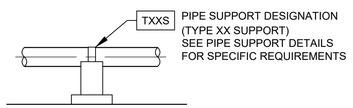
PIPING DESIGNATION



VALVE DESIGNATION



PIPE SUPPORT DESIGNATION



PIPE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
EXISTING PIPE		
NEW PIPE		
PIPE TO BE REMOVED		
FLANGED, WELD NECK		
FLANGED, SLIP ON		
SCREWED OR SOCKET WELD		
BELL & SPIGOT		
MECHANICAL JOINT		
ELBOW - STRAIGHT		
ELBOW - REDUCING		
ELBOW - DOWN		
ELBOW - UP		
CROSS		
REDUCER		
TEE		
TEE - DOWN		
TEE - UP		
UNION		
FLEXIBLE RUBBER CONNECTOR		
FLEXIBLE HOSE CONNECTOR		
FLANGED COUPLING ADAPTER		
FLEXIBLE COUPLING		
DISASSEMBLING JOINT	DJ	DJ
FLOOR DRAIN		
CLEAN OUT		

ACTUATOR SYMBOLS

MOTOR	M
SOLENOID	S
PNEUMATIC	

VALVE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
GATE VALVE		
GLOBE VALVE		
PLUG VALVE		
SWING CHECK VALVE		
BUTTERFLY (FLANGED)		
BUTTERFLY (WAFER)		
BALL VALVE		
DIAPHRAGM VALVE		
CAPILLARY CONTROL VALVE		
CONTROL VALVE (ELEVATION)		
CONTROL VALVE (PLAN)		
PRESSURE RELIEF VALVE (ELEVATION)		
PRESSURE RELIEF VALVE (PLAN)		
HOSE BIBB	HB	

FLOWMETER SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
MAGMETER	M	M
TURBINE METER		
VENTURI METER		

CONDUIT USAGE SCHEDULE

CIRCUIT TYPE	INSIDE BUILDINGS		OUTSIDE BUILDINGS		TRANSITION
	STANDARD	EMBEDDED IN CONCRETE	EXPOSED	BURIED IN SOIL	WITHIN 5 FEET OF BUILDING
LOW VOLTAGE POWER, 120 VAC CONTROL, SIGNAL, FIBER	GRS	PVC-80	PVC COATED GRS	HDPE-80	PVC COATED GRS
MEDIUM VOLTAGE POWER (PSE)	N/A	N/A	DB120	DB120	N/A

PIPE SCHEDULE

LINE	SYSTEM	SIZE	SERVICE	FLOW	PIPE TYPE	MAT'L	VALVE SYSTEM	TEST PRESSURE	TEST MEDIUM	ALLOWABLE LEAKAGE	TEST DURATION	NOTES
CA	COMPRESSED AIR	ALL	E	P	BS	BS	I	SEE NOTES	A	NONE	4 HRS	5
D	DRAIN (FLOOR)	≤ 4	B/C	G	CISP	CISP	-		W	NONE	1 HR	6
		≥ 4	B	G	HDPE	HDPE	-		W	NONE	1 HR	2, 6
OF	OVERFLOW	ALL	B	P	HDPE	HDPE	-		W	NONE	4 HRS	2
PW	POTABLE WATER	<4	B/E	P	CUP	CU	E	150	W	NONE	4 HRS	
		≥ 4	B	P	DIPB	DI	A	SEE NOTES	W	SEE NOTES	4 HRS	1, 3, 4
			B	P	HDPE	HDPE	A	SEE NOTES	W	NONE	4 HRS	1
		≥ 4	E	P	DIPF	DI	A		W	NONE	4 HRS	

STA	PIPELINE			
	297/520 ZONE		724 ZONE	
	WORKING PRESSURE	DR	WORKING PRESSURE	DR
PIPELINE A - 1ST AVE NE TO PUMP STATION				
6+40	100	21		
11+70	80	26		
19+80	63	26	275	7
24+99	63	26	275	7
PIPELINE B - ACCESS ROAD TO NE DISCOVERY DR				
1+00			275	7
16+08			250	9
60+00			200	11
67+00			160	13.5

PIPE TYPE LEGEND

SERVICE
B BURIED
C CONCRETE ENCASED
E EXPOSED
S SUBMERGED

FLOW
P PRESSURE
G GRAVITY
V VENT

SIZE
NOMINAL DIAMETER IN INCHES

PIPE TYPE, MATERIAL AND VALVE SYSTEM SEE SPECIFICATIONS UNLESS OTHERWISE NOTED

PIPE SCHEDULE NOTES
1) PROVIDE DUCTILE IRON UNLESS NOTED ON DRAWINGS. HDPE WATER MAIN TO BE PROVIDED WHERE INDICATED.
2) PROVIDE DR 32.5 FOR OVERFLOW AND DRAIN LINES.
3) ALLOWABLE LEAKAGE PER AWWA C600.
4) SEE TABLE FOR WORKING PRESSURE AND MINIMUM DR. TEST AT 1.5 TIMES WORKING PRESSURE.
5) COMPRESSED AIR SYSTEM IS 250 PSI WITH 150 PSI SERVICE TO SUCTION SIDE HYDROPNEUMATIC TANK. TEST AT 1.5 TIMES WORKING PRESSURE.
6) TEST PER PLUMBING CODE.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED	JMF
DRAWN	LMM
CHECKED	LMM

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPING SYMBOLS, NOTES, AND SCHEDULE

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-G005.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	5 OF 83
	G5

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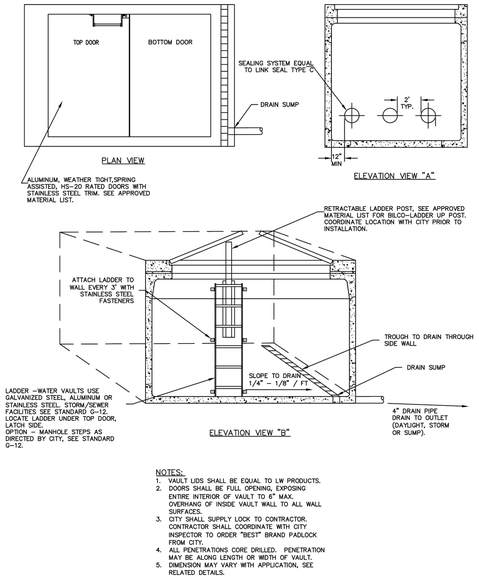
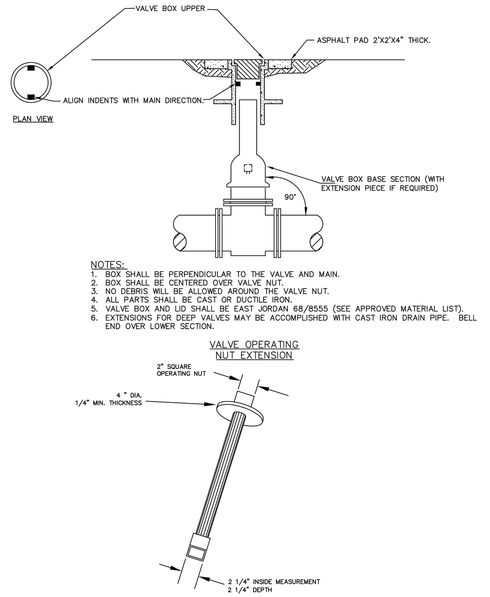


NOTES:
1. VAULT LIDS SHALL BE EQUAL TO LW PRODUCTS.
2. DOORS SHALL BE FULL OPENING, EXPOSING ENTIRE INTERIOR OF VAULT TO 6" MAX. OVERHANG OF INSIDE VAULT WALL TO ALL WALL SURFACES.
3. CITY SHALL SUPPLY LOCK TO CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH CITY INSPECTOR TO ORDER "BEST" BRAND PADLOCK FROM CITY.
4. ALL PENETRATIONS CORE DRILLED. PENETRATION MAY BE ALONG LENGTH OR WIDTH OF VAULT.
5. DIMENSION MAY VARY WITH APPLICATION, SEE RELATED DETAILS.

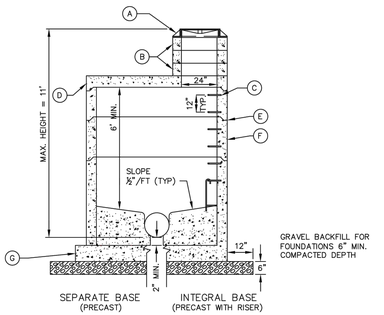
	VAULTS- GENERAL FEATURES	DATE: **2/13/2020**	STANDARD DETAIL NO.
		SCALE: **NTS**	**G-05**



NOTES:
1. BOX SHALL BE PERPENDICULAR TO THE VALVE AND MAIN.
2. BOX SHALL BE CENTERED OVER VALVE NUT.
3. NO DEBRIS WILL BE ALLOWED AROUND THE VALVE NUT.
4. ALL PARTS SHALL BE CAST OR DUCTILE IRON.
5. VALVE BOX AND LID SHALL BE EAST JORDAN 68/8555 (SEE APPROVED MATERIAL LIST).
6. EXTENSIONS FOR DEEP VALVES MAY BE ACCOMPLISHED WITH CAST IRON DRAIN PIPE. BELL END OVER LOWER SECTION.

VALVE OPERATING NUT EXTENSION

	VALVE BOX AND VALVE EXTENSION INSTALLATION	DATE: **2/13/2020**	STANDARD DETAIL NO.
		SCALE: **NTS**	**G-14**



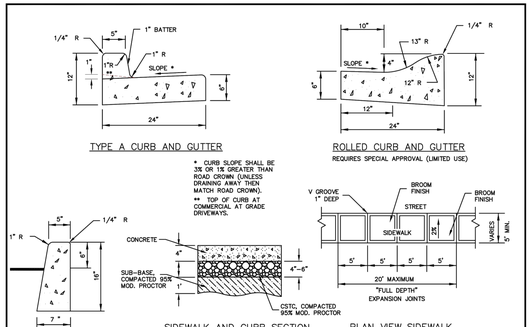
LEGEND

A. FRAME & COVER – SEE STANDARD DETAIL G-11 (CIRCULAR FRAME & COVER, BOLT-LOCKING).
B. ADJUSTMENT SECTION – SEE STANDARD DETAIL G-09 (MH OR CB RING ADJUSTMENT DETAIL).
C. STEPS & LADDER – SEE STANDARD DETAIL G-12 (MH LADDER & STEP)
D. PRECAST CONE (CONCENTRIC)
E. RUBBER GASKET BETWEEN ALL PRECAST SECTIONS. USE BITUTHENE 4000 FOR WATERPROOFING WHEN THE POTENTIAL FOR GROUNDWATER EXISTS.
F. PRECAST RISER SECTIONS (TYP)
G. PRECAST BASE: INTEGRAL BASE AND RISER, OR SEPARATE BASE

NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M198 AND M199, UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. PRECAST BASES SHALL BE FURNISHED WITH KOR-N-SEAL CONNECTOR, UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
3. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT IN ANY POSITION.
4. SEE WSDOT STANDARD SPECIFICATIONS SEC. 7-05.3 AND 9-20.4(3).
5. ADJUSTMENT RISERS AND FRAME SHALL BE SET IN 3/4" NON-SHRINK GROUT. FILL LIFTING HOLES INSIDE AND OUT. PLASTER SMOOTH INSIDE AND OUT.
6. MINIMUM 2% SLOPE ON CHANNEL.
7. CONSTRUCT CHANNEL WITH CLASS 3000 CONCRETE TO PIPE DIAMETER, AND SHELF TO THE CROWN OF PIPE. PROVIDE SMOOTH FINISH.
8. ALL MANHOLES SHALL BE LOCATED OUTSIDE THE WHEEL PATH WHERE FEASIBLE AND NOT IN A BIKE LANE.

	SEWER MANHOLE TYPE 3 72" & 96"	DATE:	STANDARD DETAIL NO.
		SCALE: **NTS**	**S-03**



NOTES:
1. MATERIAL – CONCRETE SHALL BE CLASS 3000, AIR ENTRAINED.
2. ALL MATERIAL SHALL BE TESTED PER ASTM C150 TYPE II.
3. ALL SIDEWALKS SHALL MEET ADA REQUIREMENTS.
4. DYED CONCRETE SHALL BE SEALED.
5. PATTERNS MAY VARY BY LOCATION.
6. PAVERS ARE NOT ALLOWED.

MINIMUM WIDTHS	
SIDEWALK – STANDARD	5'
SIDEWALK – COMMERCIAL	8'
URBAN TRAIL	12'

Back to Table of Contents

NO SCALE

CITY OF ISSAQUAH PUBLIC WORKS DEPARTMENT AUGUST 2010	**SIDEWALKS/CURBS/URBAN TRAILS** NOTE: THE ORIGINAL IS SIGNED BY THE ENGINEER, APPROVED FOR PUBLICATION AND FILED AT THE CITY OF ISSAQUAH PUBLIC WORKS ENGINEERING OFFICE.	REV:	STANDARD DETAIL NO. **T-38**

NOTES:

1. NOTE FOR DETAIL G-05: DO NOT PAINT VAULT FLOOR. PAINT WALLS AS FOLLOWS - CLEAN, SCUFF-SAND AND PREPARE PAINT PER PAINT MANUFACTURERS SPECIFICATION. PRIME WITH ONE COAT (6 MILS) OF SHERWIN WILLIAMS PRO-CRYL ACRYLIC PRIMER (B66 W 310 C43-22681) AND THEN TOP COAT WITH ONE COAT (6 MILS) OF SHERWIN WILLIAMS CRYL-HPA HIGH PERFORMANCE ACRYLIC GLOSS HIGH GLOSS BRIGHT WHITE (B66 W 377 6405-18908).

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN LMM
CHECKED MDL

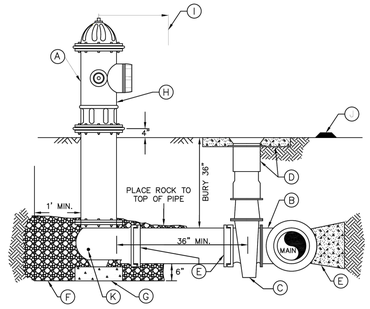
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CITY STANDARD DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-G006.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET G6 OF



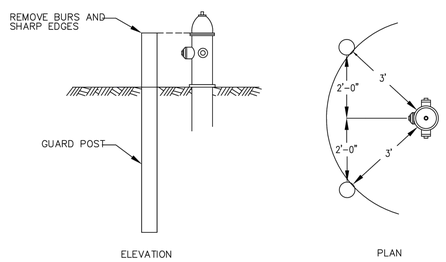
LEGEND:

A. AVK 275M-A2906-0AZJ2-QD, MUELLER 423-540627 OR EAST JORDAN 7143SD. NOTE: THE PART NUMBERS SPECIFIED ARE FOR A 4' BURY DEPTH. PART NUMBERS WILL CHANGE WITH DIFFERENT HYDRANT BURY DEPTHS. PUMPER PORT TO FACE STREET OR AS DIRECTED BY THE FIRE DEPARTMENT.
B. FLANGE OUTLET ON DUCTILE IRON TEE OR SEE STANDARD DETAIL W-08 (TAPPING TEES).
C. 1-AUXILLARY GATE VALVE-AVK SERIES 45 RESILIENT SEAT GATE VALVE WITH STAINLESS STEM AND DIRT SEAL, MUELLER A2362 RESILIENT SEAT GATE VALVE WITH STAINLESS STEM AND DIRT SEAL OR EAST JORDAN FLOWMASTER RESILIENT SEAT GATE VALVE WITH STAINLESS STEM AND DIRT SEAL, MJ-FL WITH LUGS. DO NOT MIX PARTS BETWEEN AVK, MUELLER OR EAST JORDAN. SEE APPROVED MATERIAL LIST.
D. 1-TWO PIECE CAST IRON VALVE BOX. SEE STANDARD DETAIL W-21 (VALVE BOX INSTALLATION).
E. 1-6" DUCTILE IRON CLASS 52 CEMENT-LINED PIPE, LENGTH UP TO 50'. OVER 50', 8" CLASS 52 DUCTILE IRON IS REQUIRED. RESTRAIN PIPE WITH APPROVED SYSTEM – SEE APPROVED MATERIAL LIST OR STANDARD DETAIL W-01 (TYPICAL HORIZONTAL CONCRETE BLOCKING).
F. ½ YARD WASHED DRAIN ROCK (¾"), PLACE TO TOP OF PIPE. PLACE GEO FABRIC AROUND TOP AND SIDES OF GRAVEL, DO NOT BLOCK DRAIN HOLES. DEEPER EXCAVATION WITH MORE DRAIN ROCK MAY BE REQUIRED IN POOR DRAINING SOILS.
G. 16"x8"x4" MINIMUM SIZE CONCRETE BLOCK UNDER HYDRANT.
H. FOOTAGE TO VALVE STENCILED ON HYDRANT IN 2" BLACK BLOCK ENAMEL NUMBERS TO THE NEAREST FOOT. LETTERS SHALL FACE HYDRANT VALVE.
I. MINIMUM 3' CLEAR, LEVEL AREA AROUND HYDRANT.
J. TWO WAY 4" SQUARE RAISED PAVEMENT MARKER BLUE. PLACE 4" OFF STREET CENTERLINE – HYDRANT SIDE.
K. DRAIN HOLE

NOTES:

1. HYDRANTS AND VALVES SHALL BE FROM THE SAME MANUFACTURER.
2. HYDRANT SHALL BE VERTICAL (PLUMB).
3. EXTENSION KITS ARE NOT ALLOWED.
4. HYDRANT WILL COME FACTORY WHITE FURNISHED WITH 5" STORZ CONNECTION. NO REPAINTS. ALLOW 6-8 WEEKS LEAD TIME FROM THE FACTORY.
5. TORQUE ALL BOLTS TO MANUFACTURE SPECIFICATIONS.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		FIRE HYDRANT ASSEMBLY	SCALE: NTS	**W-02**

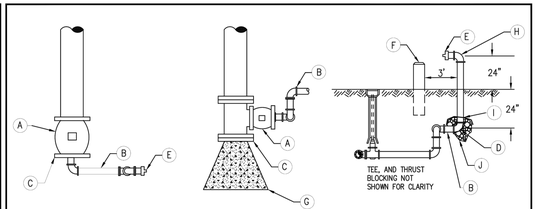


ELEVATION PLAN

NOTES:

1. GUARD POST SHALL BE 6" CLASS 52 D.I. PIPE, 6' LONG, FILLED WITH CEMENT. PAINT ALL GUARD POST(S) WHITE PER SHERWIN WILLIAMS RECOMMENDATIONS. GUARD POST MUST BE CLEANED, SCUFFED SANDED AND PREPARED PER PAINT MANUFACTURE SPECIFICATION. PRIME WITH 1 COAT (6 MILLS) OF SHERWIN WILLIAMS PRO-CRYL ACRYLIC PRIMER (B66 W 310 643-22681) AND THEN TOP COAT WITH 1 COAT (6 MILLS) SHERWIN WILLIAMS CRYL-HPA HIGH PERFORMANCE ACRYLIC GLOSS (B66 W 377 6405-18908) HIGH GLOSS BRIGHT WHITE.
2. D.I. GUARD POSTS SHALL ONLY BE USED IN PARKING LOTS, OR AS DIRECTED.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		GUARD POST	SCALE: NTS	**W-03**



END CONNECTION PLAN VIEW SIDE CONNECTION PLAN VIEW ELEVATION VIEW

MAIN SIZE	QUANTITY	BLOW-OFF SIZE
6	1	4"
8	1	4"
10	1	F.H.
12	1	F.H.
≥16	PIG	4"

LEGEND:

A. CAST IRON GATE VALVE, MAIN SIZE x BLOW-OFF SIZE TEE (SEE APPROVED MATERIAL LIST).
B. BRASS OR DUCTILE IRON PIPE.
C. BLIND FLANGE OR M.J. PLUG x SIZED BLOW-OFF PIPE.
D. 90° ELBOW WITH ⅜" DRAIN HOLE.
E. INSTALL BRASS, 4" FEMALE SEATTLE STANDARD THREAD X 2 ½" MALE NATIONAL STANDARD THREAD FITTING. INSTALL 2 ½" CAP NST.
F. GUARD POSTS WHEN REQUIRED.
G. PROVIDE RESTRAINED JOINTS.
H. PAINT ALL ABOVE-GROUND PIPE, FITTINGS AND GUARD POST(S) WHITE PER SHERWIN WILLIAMS RECOMMENDATIONS. BLOW-OFF ASSEMBLY MUST BE CLEANED, SCUFFED SANDED AND PREPARED PER PAINT MANUFACTURE SPECIFICATION. PRIME WITH 1 COAT (6 MILLS) OF SHERWIN WILLIAMS PRO-CRYL ACRYLIC PRIMER (B66 W 310 643-22681) AND THEN TOP COAT WITH 1 COAT (6 MILLS) SHERWIN WILLIAMS CRYL-HPA HIGH PERFORMANCE ACRYLIC GLOSS (B66 W 377 6405-18908) HIGH GLOSS BRIGHT WHITE.
I. PROVIDE GEO-FABRIC AROUND TOP AND SIDES OR ROCK. DO NOT BLOCK DRAIN HOLE.
J. PLACE ½ YARD OF ¾" WASHED ROCK AROUND DRAIN HOLE. DEEPER EXCAVATION WITH MORE DRAIN ROCK MAY BE REQUIRED IN POOR DRAINING SOILS.

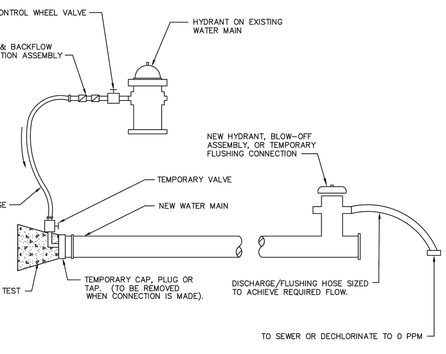
NOTES:

1. SEE STANDARD DETAIL W-21 (VALVE BOX INSTALLATION).
2. LOCATION OF BLOW-OFF TO BE DETERMINED BY CITY.
3. 2" BLOW-OFF SHALL BE INSTALLED ON ALL FUTURE STUBS.
4. TORQUE ALL BOLTS TO MANUFACTURE SPECIFICATIONS.
5. STENCIL FOOTAGE TO VALVE ON DISCHARGE PIPE. 2" BLACK BLOCK ENAMEL NUMBERS.
6. HYDRANT ASSEMBLIES MAY BE SUBSTITUTED FOR BLOW-OFF ASSEMBLIES. SEE STANDARD DETAIL W-02 (FIRE HYDRANT ASSEMBLY).
7. VALVE SHALL BE LOCATED AT LEAST 3' FROM GUARD POST OR STAND PIPE.
8. ALL JOINTS AND FITTINGS SHALL USE RESTRAINED JOINT SYSTEMS. SEE APPROVED MATERIAL LIST.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		BLOW-OFF ASSEMBLY	SCALE: NTS	**W-04**

NOTES:

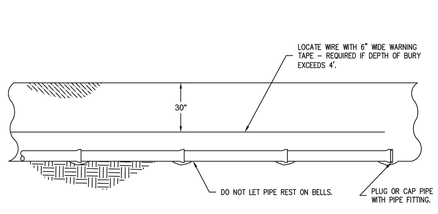
1. NOTE FOR DETAILS W-04: CLEAN, SCUFF-SAND AND PREPARE PAINT PER PAINT MANUFACTURERS SPECIFICATION. PRIME WITH ONE COAT (6 MILS) OF SHERWIN WILLIAMS PRO-CRYL ACRYLIC PRIMER (B66 W 310 C43-22681) AND THEN TOP COAT WITH ONE COAT (6 MILS) OF SHERWIN WILLIAMS CRYL-HPA HIGH PERFORMANCE ACRYLIC GLOSS HIGH GLOSS BRIGHT WHITE (B66 W 377 6405-18908)
2. NOTE FOR DETAIL W-04, ITEM E: INSTALL BRASS, 4-INCH FEMALE SEATTLE STANDARD THREAD X 2 1/2-INCH MALE NATIONAL STANDARD THREAD FITTING, INSTALL 2 1/2-INCH CAP NST.



NOTES

1. AN APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED BETWEEN THE EXISTING AND NEW WATER MAIN DURING DISINFECTION AND FLUSHING OF NEW WATER MAIN. (OBTAINED FROM ISSAQUAH PUBLIC WORKS OPERATIONS).
2. THE BACKFLOW PREVENTION ASSEMBLY AND SUPPLY HOSE MUST BE DISCONNECTED DURING HYDROSTATIC PRESSURE TESTING OF THE NEW MAIN.
3. THE NEW WATER MAIN SHALL BE CONNECTED TO THE EXISTING SYSTEM ONLY AFTER NEW MAIN IS PRESSURE TESTED, FLUSHED, DISINFECTED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED.
4. FOR DISINFECTION PROCEDURES SEE TECHNICAL SPECIFICATIONS.
5. AFTER CHLORINE IS FLUSHED AND MAIN CONNECTION IS MADE, THE NEW MAIN SHALL BE FLUSHED AT A VELOCITY OF 5 FPS. DISCHARGE SHALL BE SCREENED TO COLLECT ROCKS. FLUSHING DURATION SHALL ENSURE AT LEAST 3 CHANGES OF WATER IN THE NEW MAIN.
6. IF FLOW OR DISCHARGE LIMITATIONS PREVENT ACHIEVING 5 FPS, THEN THE PIPE SHALL BE PIGGED.
7. PROVIDE DECHLORINATION DURING FLUSHING WHERE NECESSARY.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		FILLING AND FLUSHING NEW WATER MAINS	SCALE: NTS	**W-05**

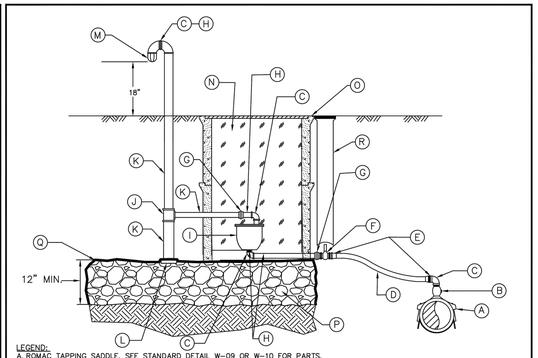


*** ALL JOINTS & CONNECTIONS SHALL BE MECHANICALLY RESTRAINED. SEE APPROVED MATERIAL LIST.**

NOTES

1. LAY PIPE WITH BELLS UPGRADE.
2. PREPARE TRENCH SO PIPE IS SUPPORTED FULL-LENGTH.
3. PLUG OR CAP PIPE WHENEVER NOT ACTIVELY WORKING ON PIPE SECTION. USE MJ OR TYTON JOINT PLUG OR CAP. BOARDS, BUCKETS, ETC. ARE NOT ALLOWED.
4. PIPE THAT IS ROLLED OFF A TRUCK OR TRAILER, OR IS DROPPED OR OTHERWISE MISHANDLED WILL BE REJECTED.
5. CUT ENDS SHALL BE BEVELED PER MANUFACTURER SPECIFICATIONS PRIOR TO ASSEMBLY.
6. GASKETS SHALL BE LUBRICATED WITH APPROVED AWWA C11/A21.11-07 SEC. 4.5.4 LUBRICANT.
7. THE NEW WATER MAIN SHALL BE CONNECTED TO THE EXISTING SYSTEM ONLY AFTER NEW MAIN IS PRESSURE TESTED, DISINFECTED, FLUSHED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED.
8. NEW MAINS SHALL BE FLUSHED AT A MINIMUM VELOCITY OF 5 FPS.
9. PIPES LESS THEN 20' OR LENGTHS APPROVED BY CITY ENGINEER MAY BE SWABBED WITH 500 PPM CHLORINE SOLUTION. CARE SHALL BE TAKEN NOT TO GET CHLORINE ON THE OUTSIDE OF THE PIPE OR FITTINGS.
10. EXTREME CARE SHALL BE TAKEN TO PREVENT WATER AND/OR DEBRIS FROM ENTERING PIPE.
11. A TORQUE WRENCH SHALL BE USED TO PROPERLY TIGHTEN BOLTS AND NUTS TO MANUFACTURER SPECIFICATIONS.
12. JOINT ASSEMBLY SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
13. PIPE LAYING OPERATIONS VIOLATING ANY SECTION OF THIS DETAIL SHALL BE IMMEDIATELY SUSPENDED UNTIL THE CITY HAS BEEN SATISFIED OF THE CONTRACTORS ABILITY TO MEET THESE REQUIREMENTS.
14. MAINTAIN 18" CLEAR ZONE AROUND WATER MAIN AND OTHER UTILITIES.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		PIPE LAYING DETAIL	SCALE: NTS	**W-06**



LEGEND:
A. ROMAC TAPPING SADDLE. SEE STANDARD DETAIL W-09 OR W-10 FOR PARTS.
B. MUELLER OR FORD BALL CORPORATION STOP, MALE CC THREAD INLET BY MALE IRON PIPE OUTLET.
C. 90° BRASS ELBOW FEMALE IRON PIPE BY FEMALE IRON PIPE THREADS.
D. TYPE K SOFT COPPER WITH NO JOINTS. MAINTAIN POSITIVE SLOPE TO AIR VACUUM ASSEMBLY.
E. COUPLING COPPER TO MALE IRON PIPE THREADS: MUELLER 110 COMPRESSION OR FORD QUICK JOINTS, NO PACK JOINTS ALLOWED.
F. CURB STOP: FORD OR MUELLER (SEE STANDARD DETAIL W-09 OR W-10 FOR PARTS).
G. BRASS UNION, FEMALE IRON PIPE BY FEMALE IRON PIPE.
H. NIPPLES: BRASS, MALE IRON PIPE BY MALE IRON PIPE THREADS, LENGTHS VARY.
I. AIR & VACUUM VALVE ASSEMBLY. SEE APPROVED MATERIAL LIST.
J. BRASS TEE, IRON PIPE THREADS.
K. BRASS PIPE, MALE IRON PIPE THREADS.
L. BRASS CAP WITH ¾" DRILLED HOLE. PLACE BELOW PLASTIC SHEET.
M. BRASS BEEHIVE STRAINER
N. CEDAR SHAVINGS
O. METER BOX (2 SECTIONS REQUIRED) DFWB40CNP4-S25-4MA2 FOR 1" AND SMALLER VALVES. VAULT REQUIRED FOR 1-1/2" AND LARGER VALVES. SEE STANDARD DETAIL G-05 (VAULTS-GENERAL FEATURES).
P. ¾" WASHED ROCK
Q. GEO FABRIC- ENCLOSE WASHED ROCK ON TOP AND ALL SIDES.
R. STANDARD VALVE BOX SEE STANDARD DETAIL W-21 (VAVLE BOX INSTALLATION).

NOTES:
1. ALL PIPE AND FITTINGS TO BE BRASS, DUCTILE IRON OR COPPER.
2. PIPE ABOVE GRADE TO BE PAINTED. AIR VACUUM ASSEMBLY MUST BE CLEANED, SCUFFED SANDED AND PREPARED PER PAINT MANUFACTURE SPECIFICATION. PRIME WITH 1 COAT (6 MILLS) OF SHERWIN WILLIAMS PRO-CRYL ACRYLIC PRIMER (B66 W 310 643-22681) AND THEN TOP COAT WITH 1 COAT (6 MILLS) SHERWIN WILLIAMS CRYL-HPA HIGH PERFORMANCE ACRYLIC GLOSS (B66 W 377 6405-18908) HIGH GLOSS BRIGHT WHITE.
3. AIR & VACUUM RELEASE VALVE ASSEMBLY TAP MUST BE INSTALLED AT HIGHEST POINT OF WATER MAIN.
4. LOCATE AIR & VACUUM METER BOX OUTSIDE OF TRAFFIC AREAS, BEHIND CURB OR SIDEWALK.
5. REQUIRED SIZE SHALL BE DESIGNED BY THE ENGINEER.
6. GUARD POST(S) MAY BE REQUIRED PER CITY'S DIRECTION.

			DATE: 2/13/2020	STANDARD DETAIL NO.
		AIR VACUUM RELEASE VALVE ASSEMBLY	SCALE: NTS	**W-07**

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CITY STANDARD DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-G007.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET G7 OF

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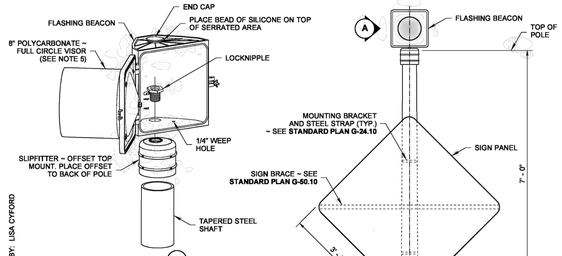
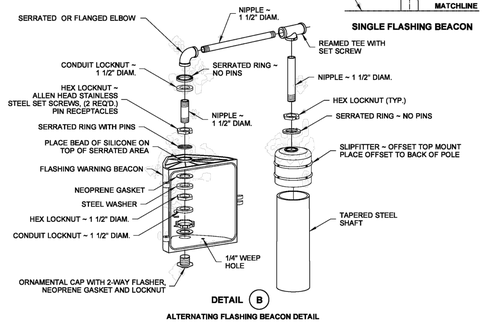
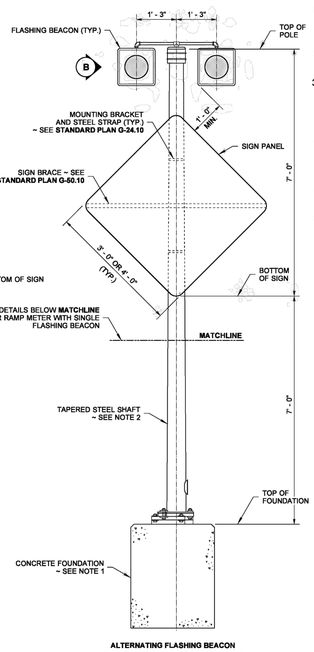
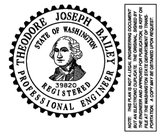






NOTES

1. See **Standard Plan J-21.10** for Signal Standard Foundation details.
2. All poles shall be hot dip galvanized per AASHTO M111.
3. Welding of structures shall be in accordance with the latest edition of the AWS D1.1 Structural Welding Code - Steel. All butt welds shall be ground flush with base metal.
4. Visor shall be 8" Polycarbonate, fully enclosed circle at bottom to reduce glare on sign. Display shall be of appropriate color needed.
5. See **Standard Plan J-21.17** for Electrical details.
6. Junction Box serving the Standard shall preferably be located 5' - 0" (10' - 0" Max.) from the Standard.



DRAWN BY: LISA CYFORD

FLASHING BEACON TYPE 1 SIGNAL STANDARD DETAILS

STANDARD PLAN J-21.16-01

SHEET 1 OF 1 SHEET

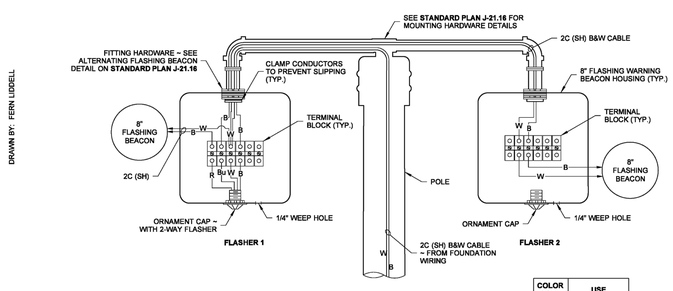
APPROVED FOR PUBLICATION

Pasco Bakotich III 6/10/13

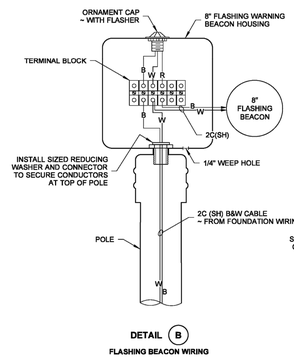
STATE DESIGN ENGINEER — DATE

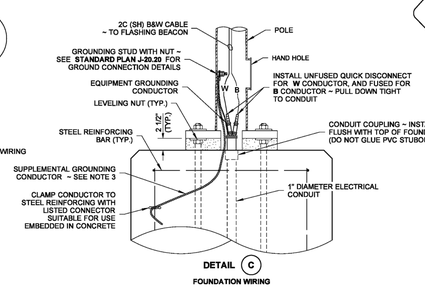
Washington State Department of Transportation

WSDOT STANDARD DETAIL J-21.16-01



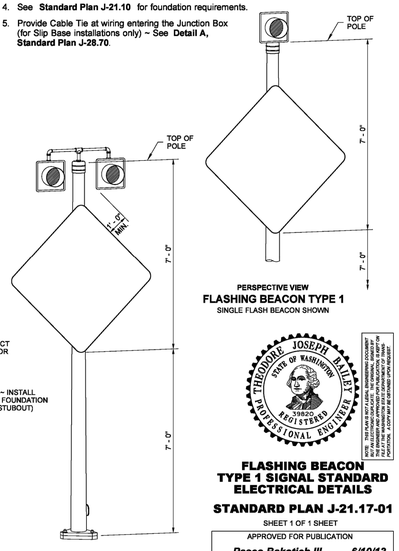
COLOR CODE	USE
B	POWER
W	NEUTRAL
R	FLASHER 1
Bu	FLASHER 2





NOTES

1. See **Standard Specification 9-29.3** for Cable Conductor requirements.
2. See **Standard Plan J-21.16** for Flashing Beacon Type 1 Signal Standard details.
3. Supplemental Grounding Conductor shall be non-insulated #4 AWG stranded copper, provide 3' - 0" min. slack. Clamp to vertical steel reinforcing bar with listed connector suitable for use embedded in concrete.
4. See **Standard Plan J-21.10** for foundation requirements.
5. Provide Cable Tie at wiring entering the Junction Box (for Slip Base installations only) ~ See **Detail A, Standard Plan J-28.70**.



FLASHING BEACON TYPE 1 SIGNAL STANDARD ELECTRICAL DETAILS

STANDARD PLAN J-21.17-01

SHEET 1 OF 1 SHEET

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Pasco Bakotich III 6/10/13

STATE DESIGN ENGINEER — DATE

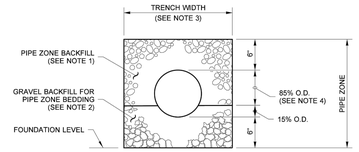
Washington State Department of Transportation

WSDOT STANDARD DETAIL J-21.17-01

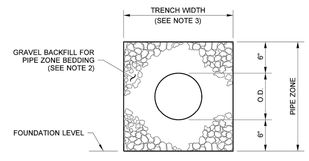
NOTES:

1. SEE STANDARD SPECIFICATIONS 9-03.9(3) (CSTC) FOR PIPE ZONE BACKFILL.
2. SEE STANDARD SPECIFICATIONS 9-03.9(3) (CSTC) FOR GRAVEL BACKFILL FOR PIPE ZONE BEDDING.
3. SEE STANDARD SPECIFICATIONS SECTION 2-09.4 FOR MEASUREMENT OF TRENCH WIDTH.
4. FOR SANITARY SEWER INSTALLATION, CONCRETE PIPE SHALL BE BEDDED TO SPRING LINE.
5. PIPE TRENCH MATERIALS SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D 1557 TEST METHOD.
6. SEE DRAWINGS C5 AND C6 FOR PAVING REQUIREMENTS.
7. MINIMUM BURY DEPTH SHALL BE AS SHOWN ON PIPELINE DRAWINGS.
8. TRENCH BACKFILL ABOVE PIPE ZONE BACKFILL SHALL BE CSTC (WSDOT STANDARD SPECIFICATION SECTION 9-03.9(3).
9. PROVIDE TRACER WIRE ABOVE ALL BURIED THERMOPLASTIC PIPE.

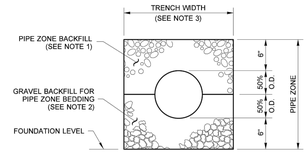
DRAWN BY: FERN LIDDELL



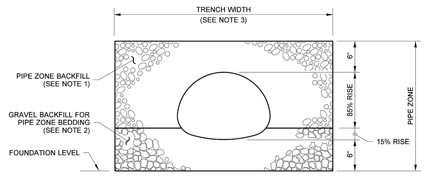
CONCRETE AND DUCTILE IRON PIPE



THERMOPLASTIC PIPE



METAL AND STEEL RIB REINFORCED POLYETHYLENE PIPE



PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	**SIZE**	**MINIMUM DISTANCE BETWEEN BARRELS**
CIRCULAR PIPE (DIAMETER)	**UP TO 48"**	**24"**
METAL PIPE ARCH (SPAN)	**48" AND LARGER**	**DIAMETER/2 OR 36" WHICHEVER IS LESS**

Heilman, Julie
Feb 20 2018 12:56 PM

PIPE ZONE BEDDING AND BACKFILL

STANDARD PLAN B-55.20-02

SHEET 1 OF 1 SHEET

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Engineer, P.E.
Feb 17 2018 8:46 AM

STATE DESIGN ENGINEER

Washington State Department of Transportation

WSDOT STANDARD DETAIL B-55.20-02

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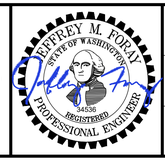
NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.



DESIGNED	JMF
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

WSDOT STANDARD DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-G008.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	G8 OF

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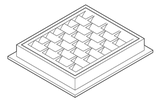
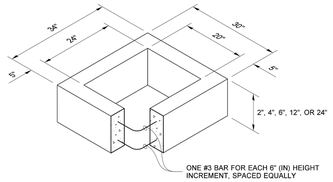
DRAWN BY: LISA CYFORD



FRAME AND VANED GRATE



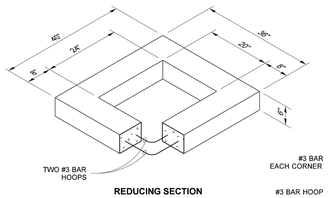
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
CPSSP * **(STD. SPEC. SECT. 9-05.20)**	18"
SOLID WALL PVC **(STD. SPEC. SECT. 9-05.12(1))**	21"
PROFILE WALL PVC **(STD. SPEC. SECT. 9-05.12(2))**	21"

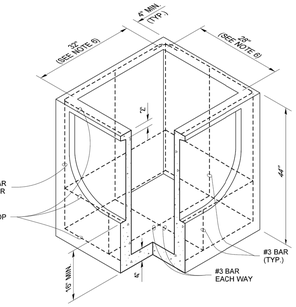
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

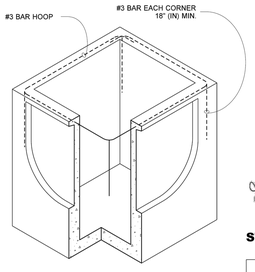
1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot, shall be used with the minimum required rebar shown in the ALTERNATIVE **PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout shall not be greater than 26" (in), in any direction. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.



REDUCING SECTION



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

JULIE HEILMAN STATE OF WASHINGTON 21819 REGISTERED PROFESSIONAL ENGINEER

Julie Heilman
Heilman, Julie
Jan 25 2017 2:56 PM
cosign

CATCH BASIN TYPE 1L

STANDARD PLAN B-5.40-02

SHEET 1 OF 1 SHEET

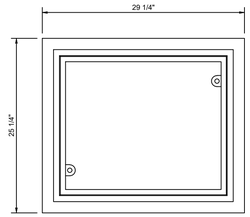
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jan 26 2017 6:49 AM
cosign

STATE DESIGN ENGINEER
Washington State Department of Transportation

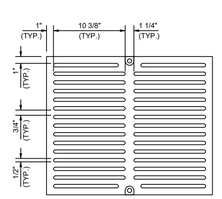
WSDOT STANDARD DETAIL B-5.40-02

NOTES

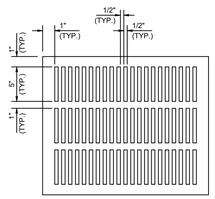
1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. All grates shall be 20" (in) x 24" (in).
3. Grate alternatives shown for informational purposes. Grate design varies by manufacturer and must meet ADA requirements.
4. Refer to Standard Specification Section 9-05.15 and 9-05.15 (2) for additional requirements.
5. Access lids shall be constructed of steel, aluminum, concrete, or polymer with an approved non-slip surface having a static coefficient of friction between 0.60 and 1.00 as determined by ASTM Designation C 1028-89. Access lids on inclines greater than 4 percent shall have a coefficient of friction between 0.80 and 1.00. Lids with openings greater than 0.5 inches (in the direction of travel) are not allowed in the pedestrian through zone.



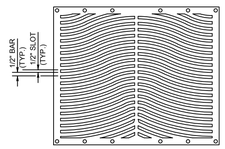
PLAN VIEW
GRATE FRAME
FOR DETAILS NOT SHOWN,
SEE STANDARD PLAN B-30.10



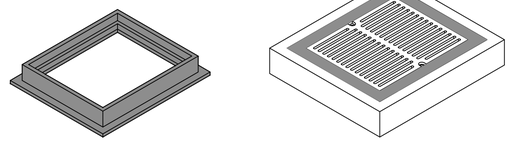
PLAN VIEW
GRATE
ALTERNATIVE 1



PLAN VIEW
GRATE
ALTERNATIVE 2



PLAN VIEW
GRATE
ALTERNATIVE 3



ISOMETRIC VIEWS
(GRATE ALTERNATIVE 1 SHOWN)

ADA GRATES FOR RECTANGULAR FRAMES

SHEET 1 OF 1 SHEET

07/15/16

WSDOT STANDARD DETAIL B-30.15-00

P:\CAD\13\13970005.00_City_of_Issaquah\139700500-G009.dwg
MIKEMARX 7/1/2020 10:32 AM

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

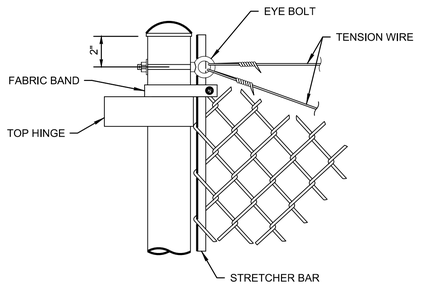
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

WSDOT STANDARD DETAILS

90% SUBMITTAL (REVISED 7/1/2020)

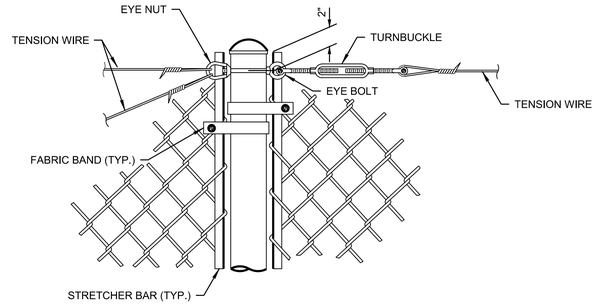
FILE NAME 139700500-G009.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 9 OF 83
G9

DRAWN BY: BILL BERENS



GATE POST

DETAIL (A)

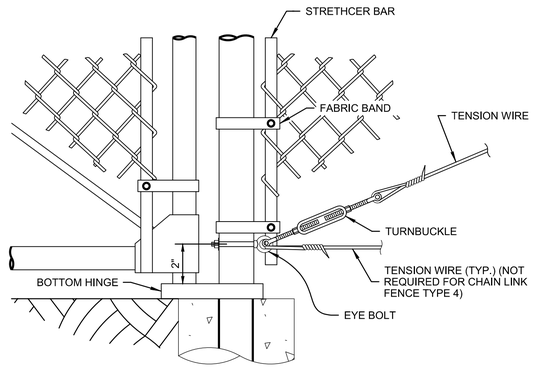


PULL POST

DETAIL (B)

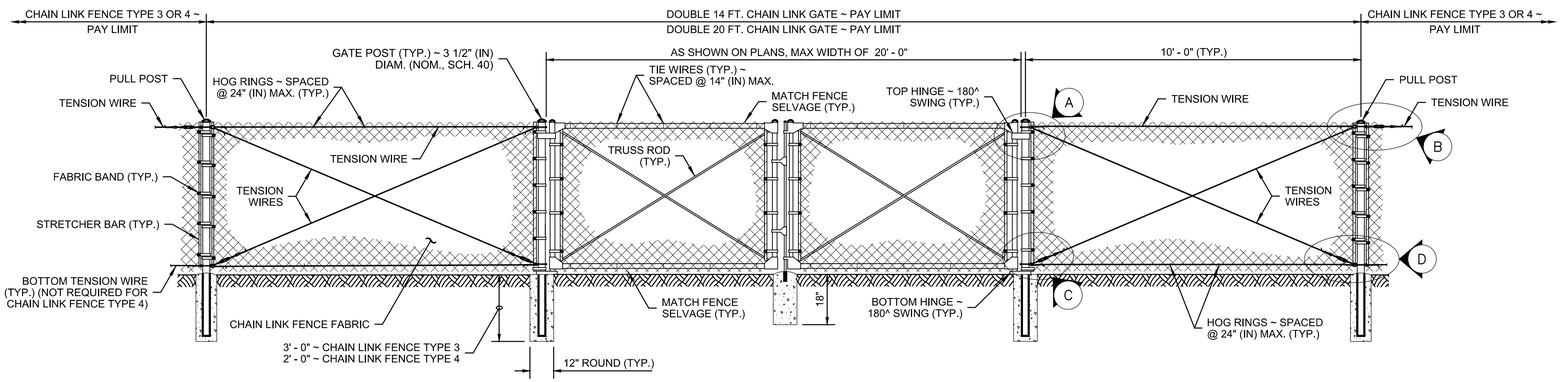
NOTES

1. Materials shall meet the requirements of **Standard Specification 9-16**.

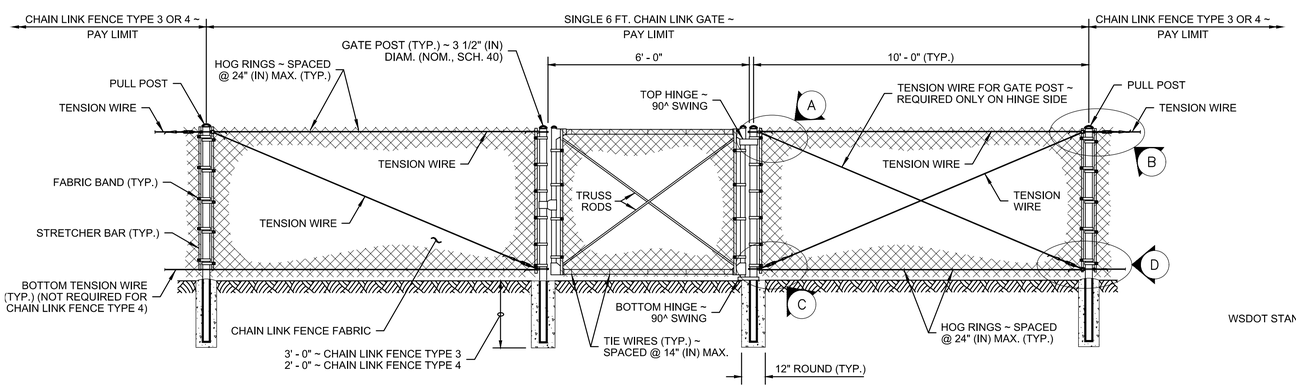


GATE POST

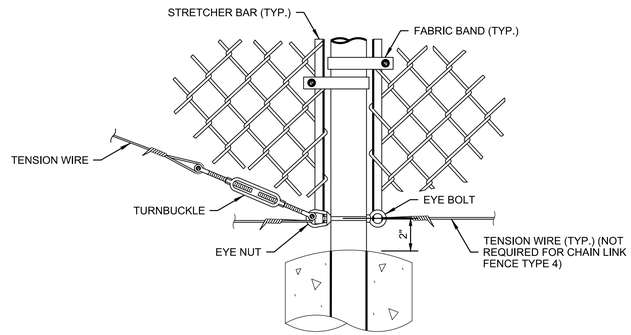
DETAIL (C)



DOUBLE GATE



SINGLE GATE



PULL POST

DETAIL (D)

WSDOT STANDARD PLAN L-30.10-02

WSDOT STANDARD DETAIL L-30.10-02

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	RJS
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

WSDOT STANDARD DETAILS

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-G010.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	10 OF 83
	G10

\\FWY01\cad\CAD\13\1397005.00_City_of_Issaquah\139700500-G010.dwg

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NOTES:

1. SLOPES OF 15% OR GREATER
2. STEEP SLOPES (GREATER THAN 40%)
3. WETLANDS BOUNDARY
4. REDUCED HYDROLOGY BUFFER
5. FENCE 8-FT HEIGHT, WSDOT STANDARD L-20.10-03.
6. ROCK PAD
7. PROPERTY LINE
8. FENCE 6-FT HEIGHT, SEE SHEET C10. MATCH APPEARANCE OF EXISTING ADJACENT FENCE.
9. NORTHERN AND EASTING FOR PROPERTY CORNER MARKERS ARE APPROXIMATE
10. REFER TO ESA ENVIRONMENTAL CRITICAL AREAS REPORT DATED DECEMBER 2019 FOR A DESCRIPTION OF THE WETLANDS AND STREAMS
11. REFER TO ICICLE CREEK GEOTECHNICAL REPORT ADDRESSING CRITICAL AREAS DATED 28 FEBRUARY 2017 AND ADDENDUM DATED 11 OCTOBER 2019.
12. THE ENTIRETY OF THE SITE IS A LANDSLIDE HAZARD AREAS PER ICICLE CREEK GEOTECHNICAL REPORT DATED 28 FEBRUARY 2017 AND ADDENDUM DATED 11 OCTOBER 2019.
13. ENVIRONMENTAL MITIGATION MEASURES REQUIRED PER THE CRITICAL AREAS REPORT ARE SHOWN ON DRAWINGS L1 THROUGH L5.

LEGEND:

SLOPES OF 15% OR GREATER (11)

STEEP SLOPES (GREATER THAN 40% & GREATER THAN 10 FT VERTICAL RELIEF) (11)

PROPERTY CORNER N:196936.19 E: 1345861.67

N1° 42' 39.08"E 385.77'

WETLAND B

S1° 45' 01.84"W 680.00'

S88° 06' 38.87"E 449.95'

372.07' N1° 42' 37.05"E

STREAM 2

WETLAND C

STREAM 3

PROPERTY CORNER N:196564.32 E: 1345850.56

S87° 25' 21.99"E 275.63'

CHAIN LINK FENCE

PROPERTY CORNER N:196570.12 E: 1345740.10

S32° 53' 52.74"E 615.26'

BUFFER PLUS SETBACK FROM BUILDING TO STEEP SLOPE IS 30 FEET.

PROPERTY CORNER N:197133.33 E: 1345360.55

RECENT (~2000) LANDSLIDE FEATURE

PROPERTY CORNER N:196947.07 E: 1345531.80

30 FT

PROPERTY CORNER N:196951.02 E: 1345411.96

S15° 44' 54.55"E 298.66'

STREAM 1

HISTORIC (INACTIVE) LANDSLIDE FEATURE

WETLAND A

PROPERTY CORNER N:196752.15 E: 1345468.11

D=3.3240 L=110.279, R=1900.880

ROW

PLAN

0 15 30 45

1"=30'

FENCE INFORMATION					
POINT	DESCRIPTION	FENCE BASE EL	TOP OF FENCE EL	NORTHING	EASTING
1	BEGIN FENCE POST AND TIE INTO (E) FENCE	184.76	190.76	196585.25	1345693.53
2	FENCE POST	186.13	192.13	196591.29	1345698.74
3	FENCE POST	187.46	193.46	196612.04	1345673.96
4	FENCE POST	189.08	195.08	196616.86	1345678.55
5	FENCE POST	189.60	195.60	196629.79	1345690.38
6	FENCE POST	189.49	195.49	196625.73	1345696.09
7	FENCE POST	189.15	195.15	196623.78	1345705.90
8	FENCE POST	196.73	202.73	196619.73	1345759.11
9	FENCE POST	197.91	203.91	196617.82	1345768.92
10	FENCE POST	198.90	204.90	196613.72	1345778.04
11	FENCE POST	199.96	205.96	196607.57	1345785.93
12	FENCE POST	200.70	206.70	196599.87	1345792.30
13	FENCE POST	200.38	206.38	196590.87	1345796.66
14	FENCE POST	198.81	204.81	196581.11	1345798.85
15	FENCE POST	195.53	201.53	196571.11	1345798.73
16	END FENCE POST AND TIE INTO (E) FENCE	190.81	196.81	196555.15	1345794.71
17	FENCE CORNER	241.68	249.68	196962.96	1345436.22
18	FENCE CORNER	243.09	251.09	197034.91	1345389.10
19	FENCE CORNER	246.46	254.46	197066.41	1345437.21
20	FENCE CORNER	241.15	249.15	196994.46	1345484.32

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED DRP

DRAWN DRP

CHECKED JMF

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

OVERALL SITE PLAN

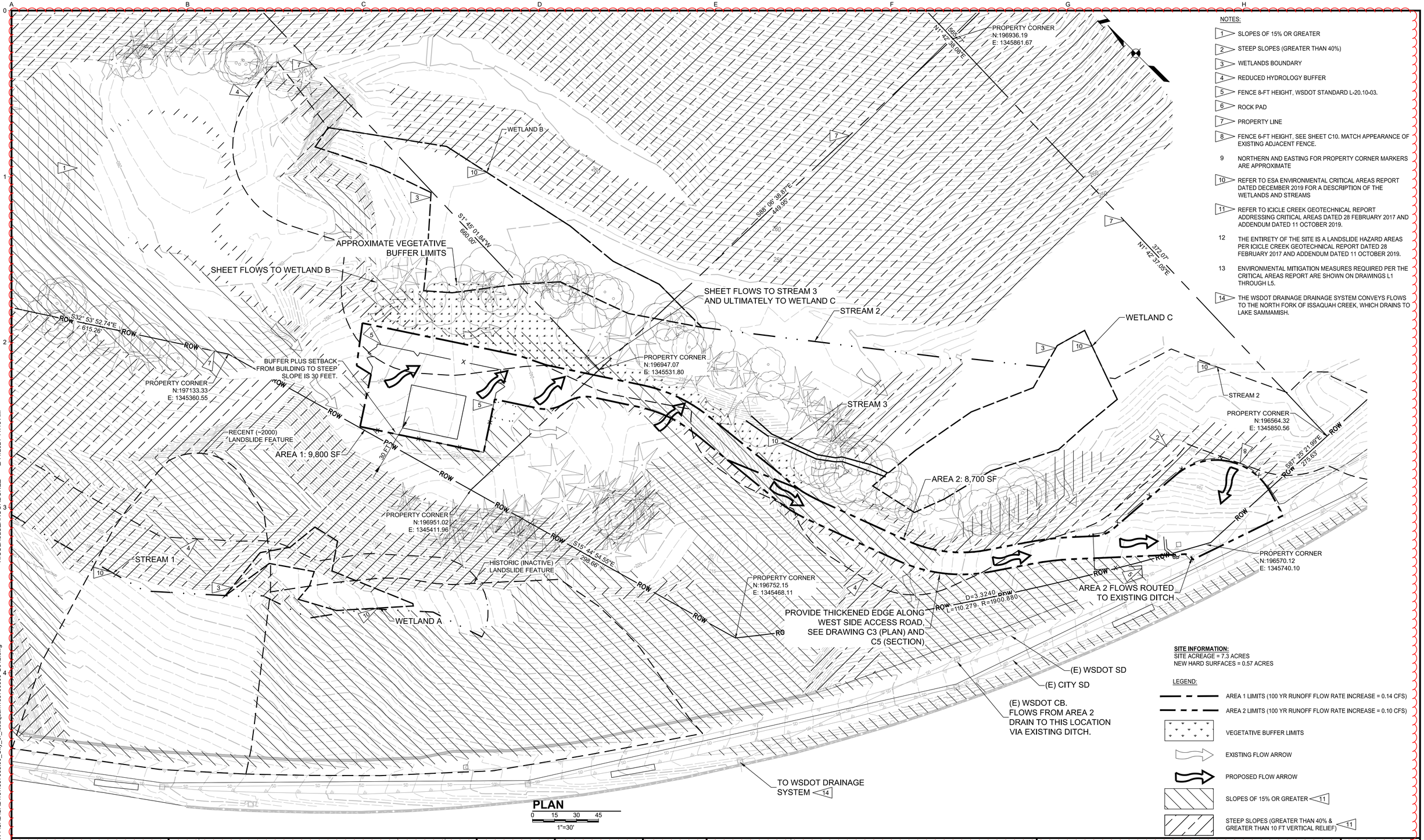
90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-G011.DWG

JOB NO. 1397005*00

DATE NOVEMBER 2020

SHEET G11 OF



PLAN
0 15 30 45
1"=30'

NOTES:

1. SLOPES OF 15% OR GREATER
2. STEEP SLOPES (GREATER THAN 40%)
3. WETLANDS BOUNDARY
4. REDUCED HYDROLOGY BUFFER
5. FENCE 8-FT HEIGHT, WSDOT STANDARD L-20.10-03.
6. ROCK PAD
7. PROPERTY LINE
8. FENCE 6-FT HEIGHT, SEE SHEET C10. MATCH APPEARANCE OF EXISTING ADJACENT FENCE.
9. NORTHERN AND EASTING FOR PROPERTY CORNER MARKERS ARE APPROXIMATE
10. REFER TO ESA ENVIRONMENTAL CRITICAL AREAS REPORT DATED DECEMBER 2019 FOR A DESCRIPTION OF THE WETLANDS AND STREAMS
11. REFER TO ICICLE CREEK GEOTECHNICAL REPORT ADDRESSING CRITICAL AREAS DATED 28 FEBRUARY 2017 AND ADDENDUM DATED 11 OCTOBER 2019.
12. THE ENTIRETY OF THE SITE IS A LANDSLIDE HAZARD AREAS PER ICICLE CREEK GEOTECHNICAL REPORT DATED 28 FEBRUARY 2017 AND ADDENDUM DATED 11 OCTOBER 2019.
13. ENVIRONMENTAL MITIGATION MEASURES REQUIRED PER THE CRITICAL AREAS REPORT ARE SHOWN ON DRAWINGS L1 THROUGH L5.
14. THE WSDOT DRAINAGE DRAINAGE SYSTEM CONVEYS FLOWS TO THE NORTH FORK OF ISSAQUAH CREEK, WHICH DRAINS TO LAKE SAMMAMISH.

SITE INFORMATION:
SITE ACREAGE = 7.3 ACRES
NEW HARD SURFACES = 0.57 ACRES

LEGEND:
- AREA 1 LIMITS (100 YR RUNOFF FLOW RATE INCREASE = 0.14 CFS)
- AREA 2 LIMITS (100 YR RUNOFF FLOW RATE INCREASE = 0.10 CFS)
- VEGETATIVE BUFFER LIMITS
- EXISTING FLOW ARROW
- PROPOSED FLOW ARROW
- SLOPES OF 15% OR GREATER 11
- STEEP SLOPES (GREATER THAN 40% & GREATER THAN 10 FT VERTICAL RELIEF) 11

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FLORAY — STATE OF WASHINGTON — 14530 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED DRP
DRAWN DRP
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

DRAINAGE PLAN

FILE NAME 139700500-G012.DWG
JOB NO. 1397005*00
DATE FEBRUARY 2021
SHEET G12 OF

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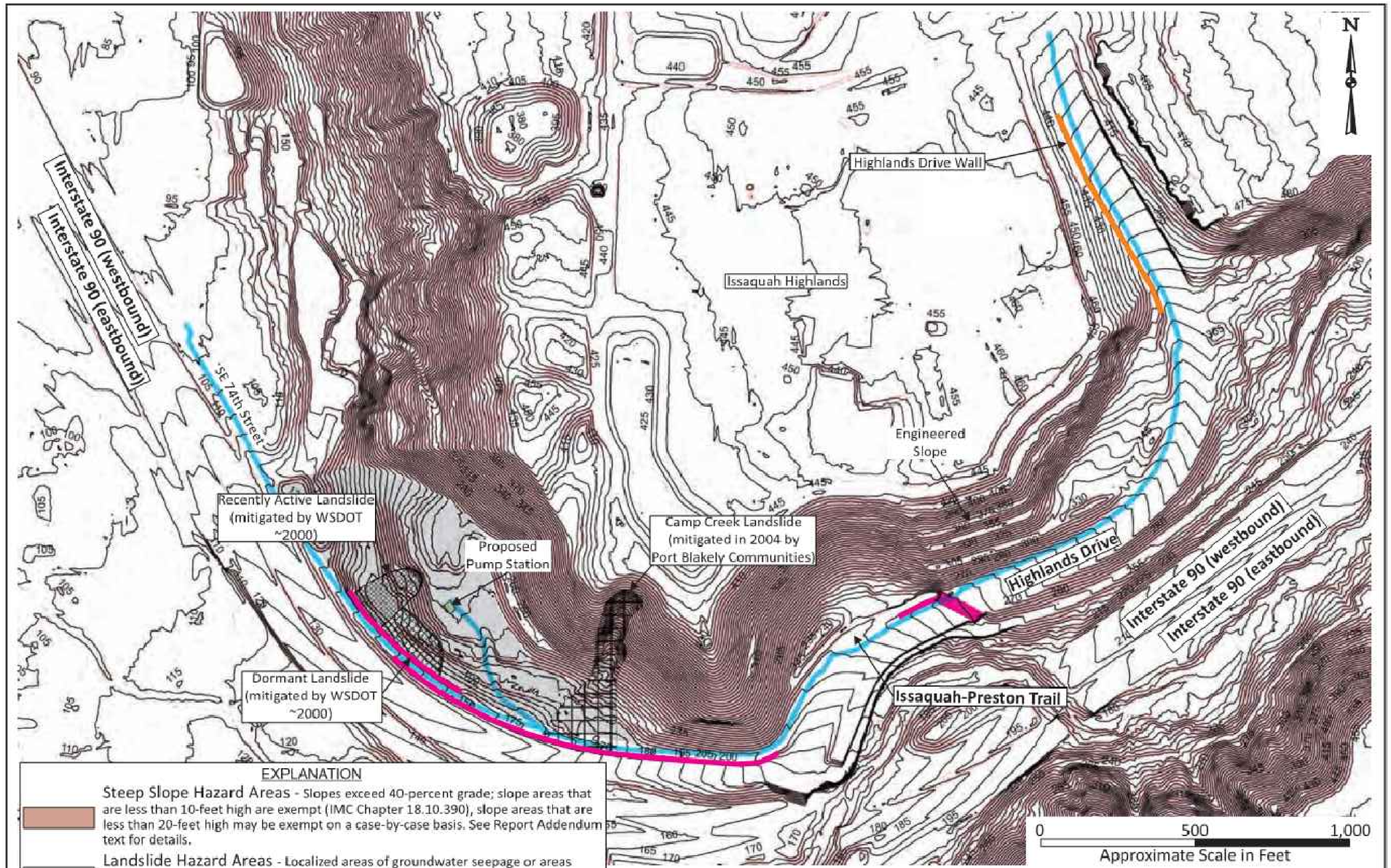

NOTES:

1. SEE DRAWING G12 FOR ADDITIONAL INFORMATION REGARDING CRITICAL AREAS AROUND PUMP STATION SITE.

NOTES: 1) Base map prepared using Light Detection and Ranging (LiDAR) Digital Terrain Model (DTM) data (King County 2016 acquisition) obtained from the Washington State Department of Natural Resources (DNR) LiDAR Portal (http://lidarportal.dnr.wa.gov) and processed for 5-foot contours and 40-percent slopes using Esri ArcGIS 10.6.

2) Proposed Pump Station and Water Line locations based on Kennedy/Jenks Consultants, November 2020, South SPAR Booster Pump Station, sheets CP1 to CP8.

SITE PLAN AND CRITICAL AREAS MAP	ICICLECREEK ENGINEERS 29335 NE 20th Street Carnation, Washington 98014 (425) 333-0093	SCALE: As shown DESIGNED: --- DRAWN: JMS/BRS CHECKED: KSK DATE: 01/22/2021	ICE FILE NO. 0101-013 Attachment A
SOUTH SPAR BOOSTER PUMP STATION AND 297/520 ZONE AND 742 ZONE WATER LINES			

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED	JMF
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CRITICAL AREA MAP

FILE NAME	139700500-G013.DWG
JOB NO.	1397005*00
DATE	FEBRUARY 2021
SHEET	G13 OF

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MIKEMARX

MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)

LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	120	130	150	160	170	190
10'	40	60	90	90	150	170	190	200	220	240

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS	55 / 70 MPH	1500'
RURAL HIGHWAYS	60 / 65 MPH	800'
RURAL ROADS	45 / 55 MPH	500'
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350'
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' (2)
URBAN STREETS	25 MPH OR LESS	100' (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.

(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CHANNELIZATION DEVICE SPACING (feet)

MPH	TAPER	TANGENT
50/70	40	80
35/45	30	60
25/30	20	40

APPROVED AS NOTED
2-12-2020
TRAFFIC OPERATIONS

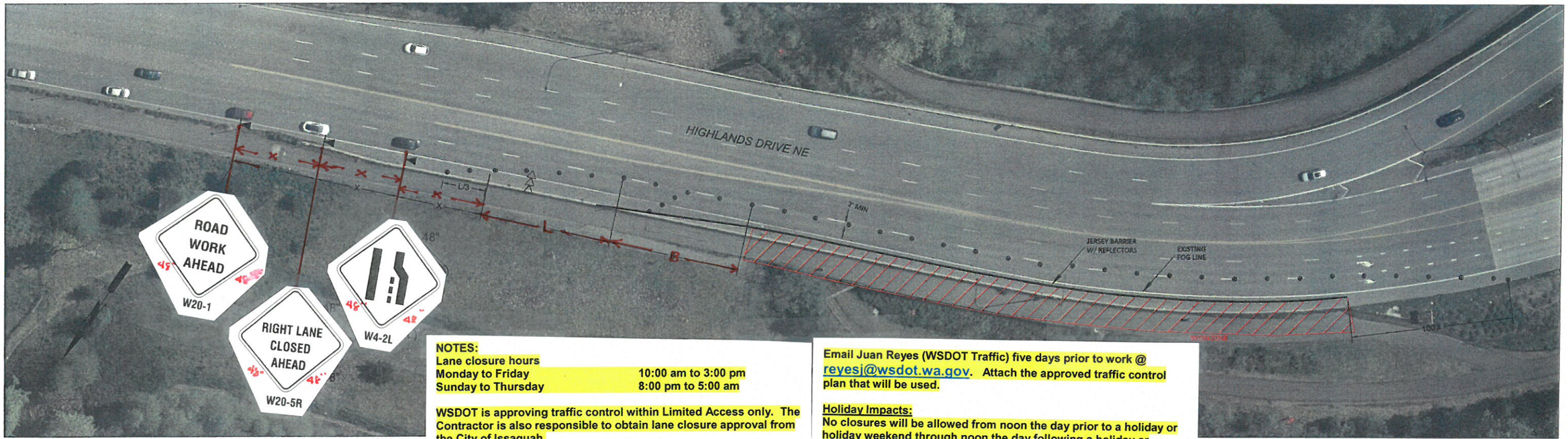
BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'



NOTES:
Lane closure hours
Monday to Friday 10:00 am to 3:00 pm
Sunday to Thursday 8:00 pm to 5:00 am

WSDOT is approving traffic control within Limited Access only. The Contractor is also responsible to obtain lane closure approval from the City of Issaquah.

Contact WSDOT NW Region Radio 5 minutes prior to start of all closures and again after reopening @ (206) 440-4490.

Email Juan Reyes (WSDOT Traffic) five days prior to work @ reyesj@wsdot.wa.gov. Attach the approved traffic control plan that will be used.

Holiday Impacts:
No closures will be allowed from noon the day prior to a holiday or holiday weekend through noon the day following a holiday or holiday weekend. It is a holiday weekend when the holiday falls on a Friday, Saturday, Sunday, or Monday

LEGEND
- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM w/type c lights
- SEQUENTIAL ARROW SIGN
- JERSEY BARRIER
- WORK ZONE

* ONE DAY LANE CLOSURE IS ALLOWED FOR PLACEMENT OF JERSEY BARRIER IN TEMPORARY LOCATION.

* ONE DAY LANE CLOSURE IS ALLOWED FOR PLACEMENT OF JERSEY BARRIER IN PERMANENT LOCATION.

* LANE CLOSURE ONLY ALLOWED FROM 9AM - 3PM.

NOTES:

1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.
3. DEVICES SHALL NOT ENCROACH INTO THE ADJACENT LANE.
4. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
5. ALL SIGNS ARE BLACK ON ORANGE.

NO.	DATE	BY	APPR	REVISION

CITY OF ISSAQUAH WASHINGTON
DEPARTMENT OF PUBLIC WORKS
P.O. BOX 1307 ISSAQUAH WA 98027 (425) 837-3400

SPAR PUMP STATION

DRN: JT | DSGN: TN | CHKD: RY

TRAFFIC CONTROL PLAN (LANE CLOSURE)

DATE: FEB 2020 | JOB#: WATR15002 | SCALE: 1"=30'

1 OF 3

SIGN SPACING

RURAL ROADS & URBAN ARTERIALS	35/40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL AND BUSINESS DISTRICTS	25/30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS		

*SPEED LIMIT HIGHLANDS DRIVE NE: 40MPH

W20-1

W21-5

W20-301

MINIMUM SHOULDER TAPER LENGTH = L/3 (FEET)

SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	-	-	-	-	-	-
14'	40	60	90	90	-	-	-	-	-	-

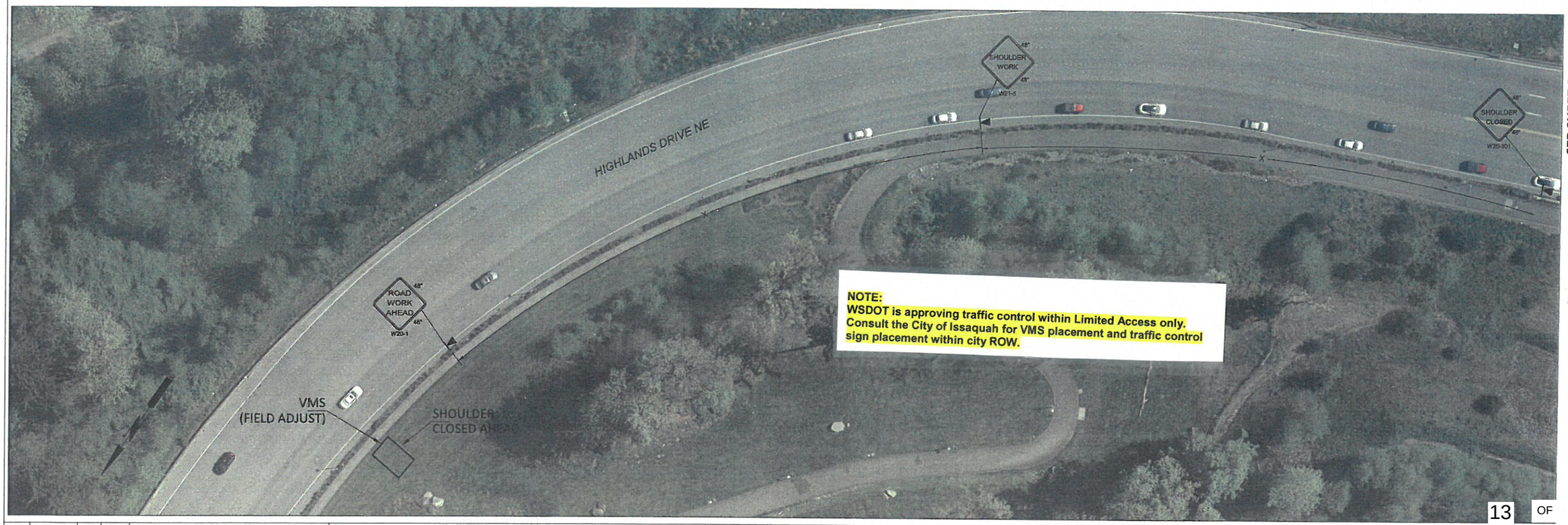
USE A 3 DEVICES TAPER FOR SHOULDERS LESS THAN 8'

CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35/40	30	60
25/30	20	40

APPROVED AS NOTED
2-12-2020
TRAFFIC OPERATIONS

LEGEND
- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM WITH TYPE C LIGHTS
- JERSEY BARRIER
- WORK ZONE

NOTES:
1. FOLLOW SIGN SPACING LEGEND, ADJUST AND ADD AS NEEDED.
2. ENSURE SIGNS ARE VISIBLE TO ONCOMING TRAFFIC.



SEE SHEET 3

NO.	DATE	BY	APPR	REVISION

CITY OF ISSAQUAH WASHINGTON
DEPARTMENT OF PUBLIC WORKS
P.O. BOX 1307 ISSAQUAH WA 98027 (425) 837-3400

SPAR PUMP STATION

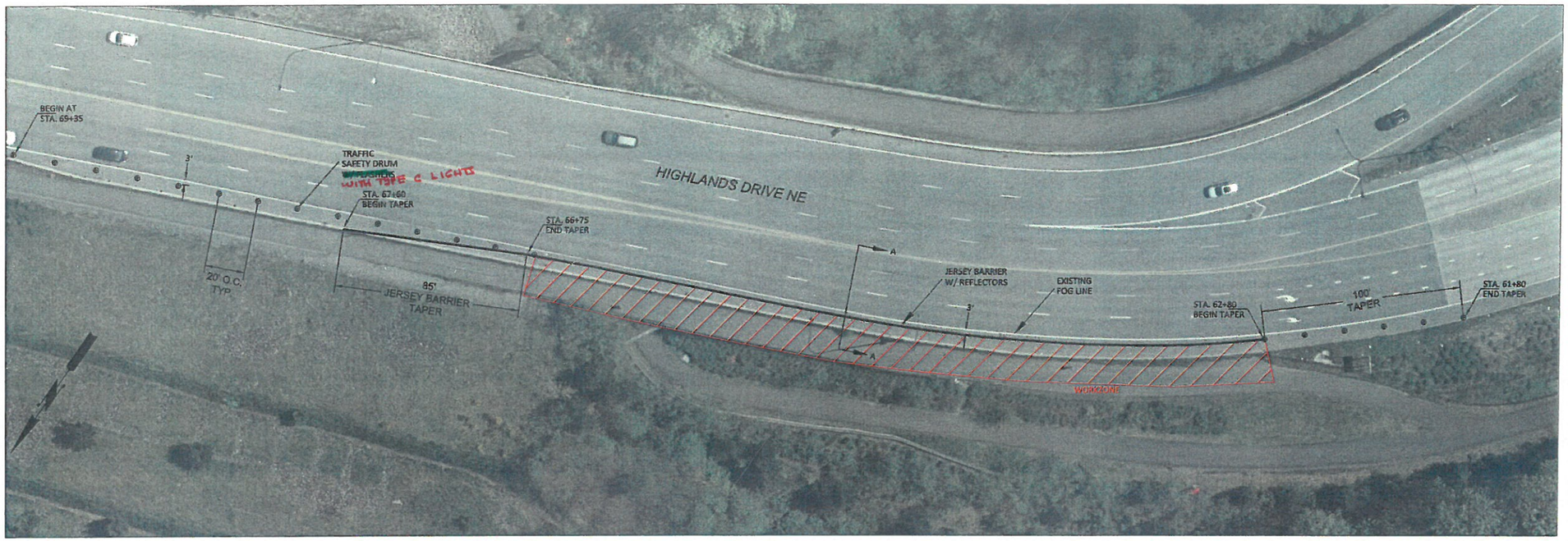
DRN: JT | DSGN: TN | CHKD: RY

TRAFFIC CONTROL PLAN

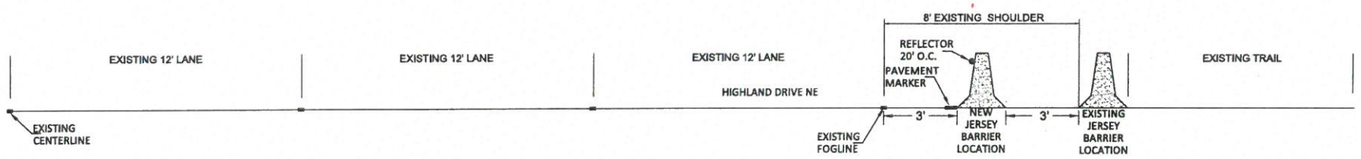
DATE: FEB 2020 | JOB#: WATR15002 | SCALE: 1:30

2 OF 3

SEE SHEET 2



APPROVED AS NOTED
2-12-2020
TRAFFIC OPERATIONS



SECTION A-A

NOTE:
WSDOT is approving traffic control within Limited Access only. The existing fence shall remain in place on top of the barrier after the barrier is temporarily moved 3 feet from the fogline.

LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM w/ type C Lights
- JERSEY BARRIER
- WORK ZONE

NOTES:

1. MOVE JERSEY BARRIER 3' BEHIND FOG LINE, AS SHOWN. SEE SECTION A- A.
2. FOLLOW SIGN SPACING LEGEND, ADJUST AND ADD AS NEEDED.
3. ENSURE SIGNS ARE VISIBLE TO ONCOMING TRAFFIC.
4. ~~FLASHING LIGHTS ON BARRIERS &~~ REFLECTORS ON BARRIERS.
5. THE DURATION OF THE JERSEY BARRIER TEMPORARY RELOCATION SHALL NOT EXCEED TWO WEEKS. BOTH THE FENCE AND JERSEY BARRIER SHALL BE RESTORED TO THE ORIGINAL CONDITIONS ONCE THE NEW PIPE IS INSTALLED AND THE FINAL PAVEMENT LAYER IS SET ON THE TRAIL.

NO.	DATE	BY	APPR	REVISION

CITY OF ISSAQUAH WASHINGTON
DEPARTMENT OF PUBLIC WORKS
P.O. BOX 1307 ISSAQUAH WA 98027 (425) 837-3400

SPAR PUMP STATION

DRN: JT | DSGN: TN | CHKD: RY

TRAFFIC CONTROL PLAN

DATE: FEB 2020 | JOB#: WATR15002 | SCALE: 1"=30'

3 OF 3

GENERAL NOTES

1. APPROVAL OF THIS EROSION AND SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY SURVEY TAPE OR FENCING, IF REQUIRED, PRIOR TO CONSTRUCTION (SWDM APPENDIX D). DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

4. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS CONSTRUCTED WHEEL WASH SYSTEMS OR WASH PADS, MAY BE REQUIRED T ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN AND TRACK OUT TO ROAD RIGHT OF WAY DOES NOT OCCUR FOR THE DURATION OF THE PROJECT.

5. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL COVER MEASURES, ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, PERIMETER PROTECTION ETC.) AS DIRECTED BY KING COUNTY.

7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE ESC FACILITIES.

8. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO CONSECUTIVE DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

9. ANY AREA NEEDING ESC MEASURES THAT DO NOT REQUIRE IMMEDIATE ATTENTION SHALL BE ADDRESSED WITHIN SEVEN (7) DAYS.

10. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH DURING THE DRY SEASON, BI-MONTHLY DURING THE WET SEASON, OR WITHIN TWENTY FOUR (24) HOURS FOLLOWING A STORM EVENT.

11. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE ROUGH GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

13. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE INSPECTOR.

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC01.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 15 OF 83

EC01

P:\CAD\13\1397005.00_City_of_Issaquah\139700500-EC01.dwg

MIKEMARX 7/2/2020 4:01 PM

FUTURE RESERVOIR GRAVEL PAVING AND GRADING DELETED FROM PROJECT, SEE DRAWING C2.

(F) 2.5 MG
108'Ø RESERVOIR

PUMP STATION

SEE SHEET C03

MATCHLINE

NOTES:

1. ALL ESC MESAURES SHOWN ARE CONSIDERED INITIAL AND INTERIM, EXCEPT FOR SEEDING AND MULCHING, WHICH ARE FINAL.
2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.
4. PROVIDE TEMPORARY CONSTRUCTION FENCING AT ALL WORK LIMITS.

ESC LEGEND:

- LOW — WORK LIMITS
- SF — SILT FENCE
- CF — CONSTRUCTION FENCE
- IP — INLET PROTECTION
- CE — CONSTRUCTION ENTRANCE
- DI — DITCH WITH CHECK DAMS
- CWA — CONCRETE WASHOUT
- SE — SEEDING
- MU — MULCHING
- NET — NETS AND BLANKETS

PLAN

0 10 20 30

1"=20'

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED DRP

DRAWN DRP

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC02.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 16 OF 83
EC02

PLAN

0 20 40 60

1"=20'

NOTES:

1. ALL ESC MESAURES SHOWN ARE CONSIDERED INITIAL AND INTERIM, EXCEPT FOR SEEDING AND MULCHING, WHICH ARE FINAL.
2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.
4. PROVIDE TEMPORARY CONSTRUCTION FENCING AT ALL WORK LIMITS.

ESC LEGEND:

LOW	WORK LIMITS
SF	SILT FENCE
CF	CONSTRUCTION FENCE
IP	INLET PROTECTION
CE	CONSTRUCTION ENTRANCE
DI	DITCH WITH CHECK DAMS
CWA	CONCRETE WASHOUT
SE	SEEDING
MU	MULCHING
NET	NETS AND BLANKETS

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC03.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 17 OF 83

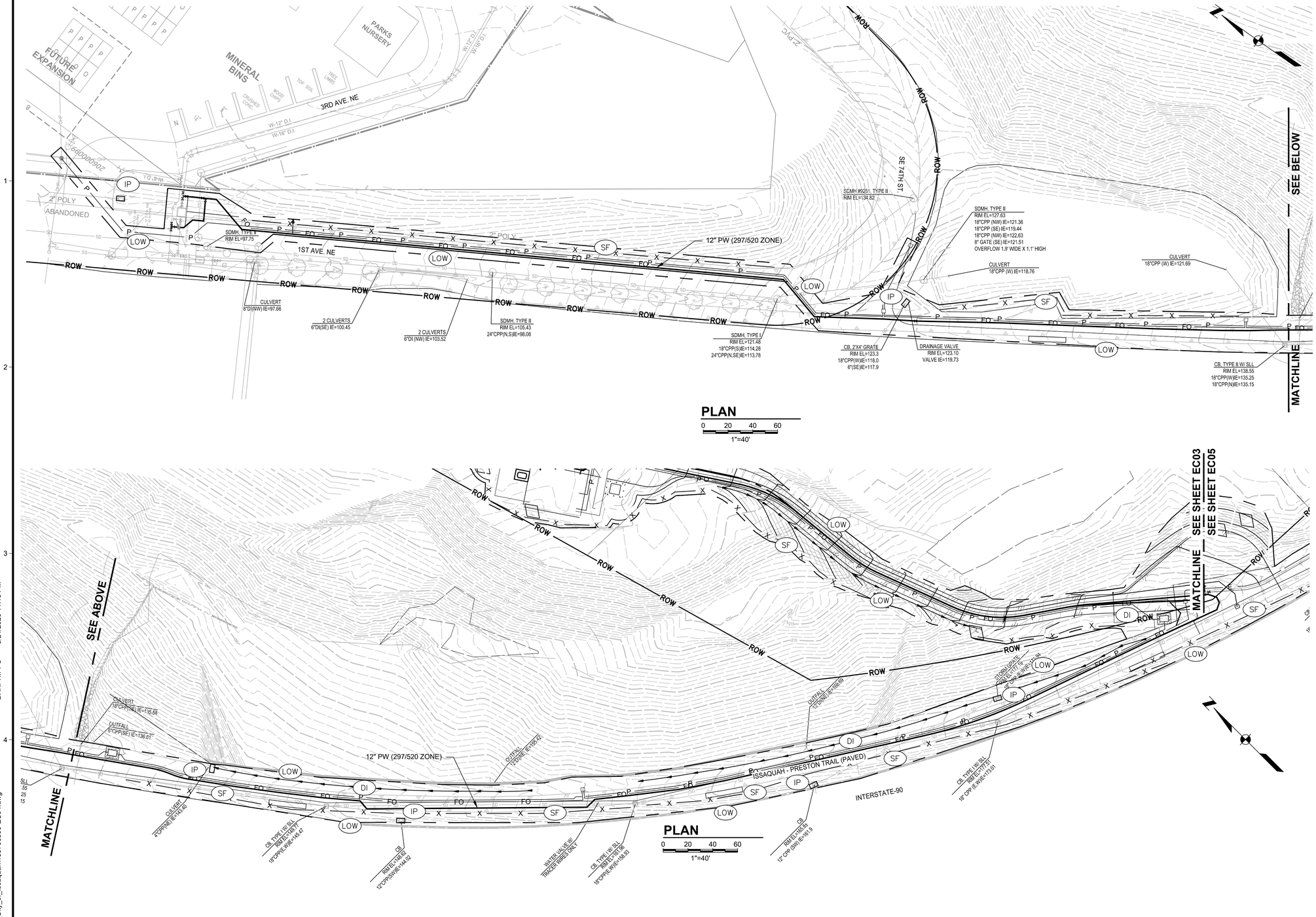
EC03

NOTES:

1. ALL ESC MESAURES SHOWN ARE CONSIDERED INITIAL AND INTERIM, EXCEPT FOR SEEDING AND MULCHING, WHICH ARE FINAL.
2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.

ESC LEGEND:

- LOW — WORK LIMITS
- SF — SILT FENCE
- IP — INLET PROTECTION
- CE — CONSTRUCTION ENTRANCE
- DI — DITCH WITH CHECK DAMS
- CWA — CONCRETE WASHOUT
- SE — SEEDING
- MU — MULCHING
- NET — NETS AND BLANKETS



PLAN
0 20 40 60
1"=40'

PLAN
0 20 40 60
1"=40'

KEY PLAN
SCALE NONE

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC04.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 18 OF 83
EC04

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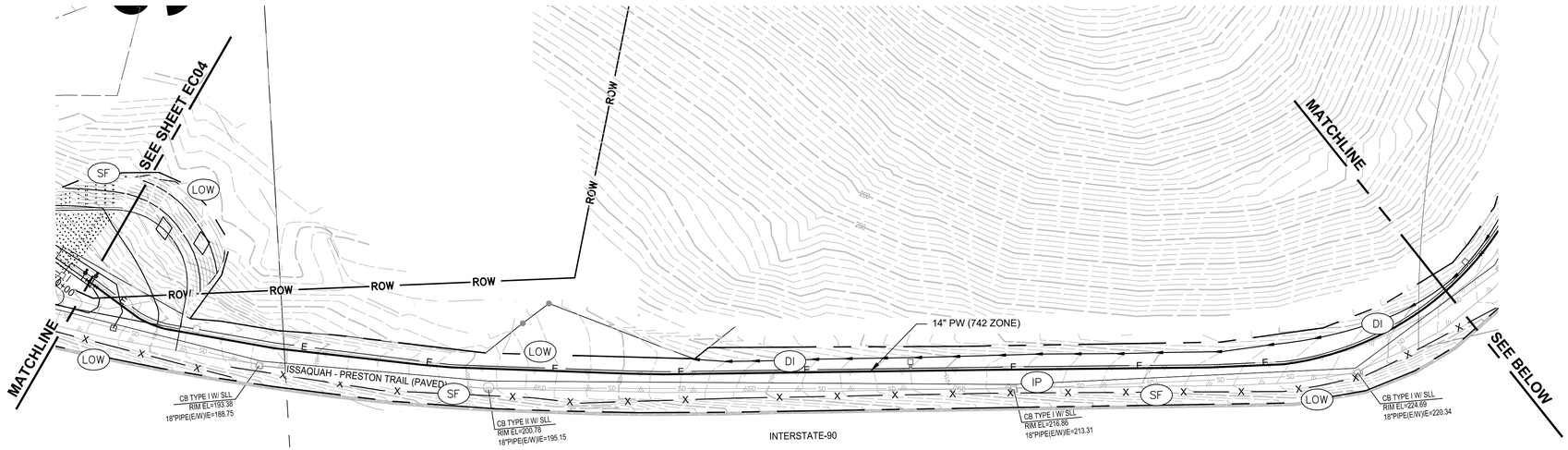

PLAN

0 20 40 60

1"=40'

PLAN

0 20 40 60

1"=40'

NOTES:

1. ALL ESC MESAURES SHOWN ARE CONSIDERED INITIAL AND INTERIM, EXCEPT FOR SEEDING AND MULCHING, WHICH ARE FINAL.
2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.

ESC LEGEND:

LOW	WORK LIMITS
SF	SILT FENCE
IP	INLET PROTECTION
CE	CONSTRUCTION ENTRANCE
DI	DITCH WITH CHECK DAMS
CWA	CONCRETE WASHOUT
SE	SEEDING
MU	MULCHING
NET	NETS AND BLANKETS

KEY PLAN

SCALE NONE

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC05.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 19 OF 83

EC05

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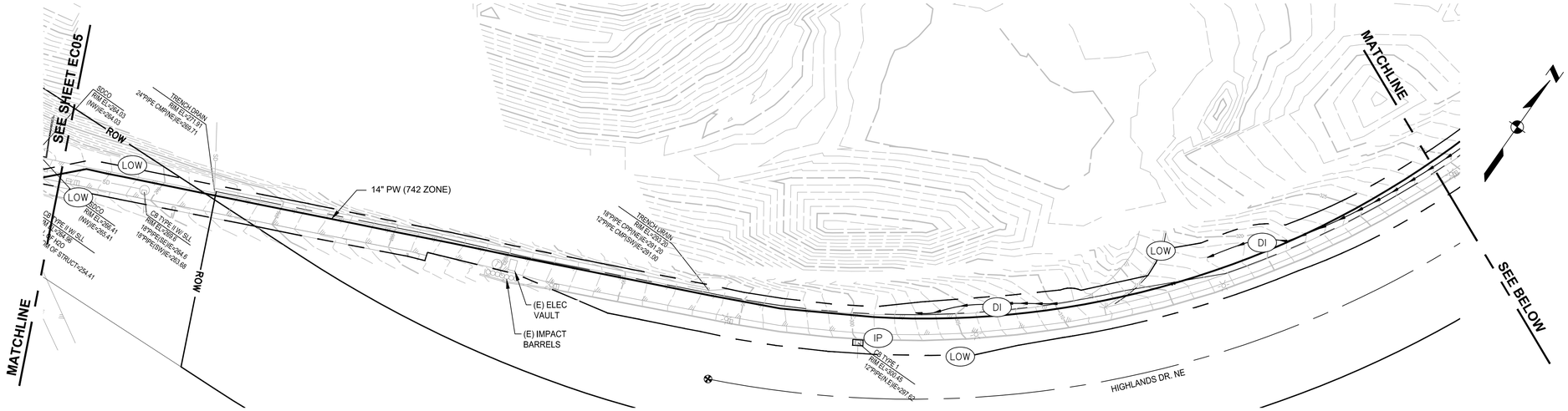
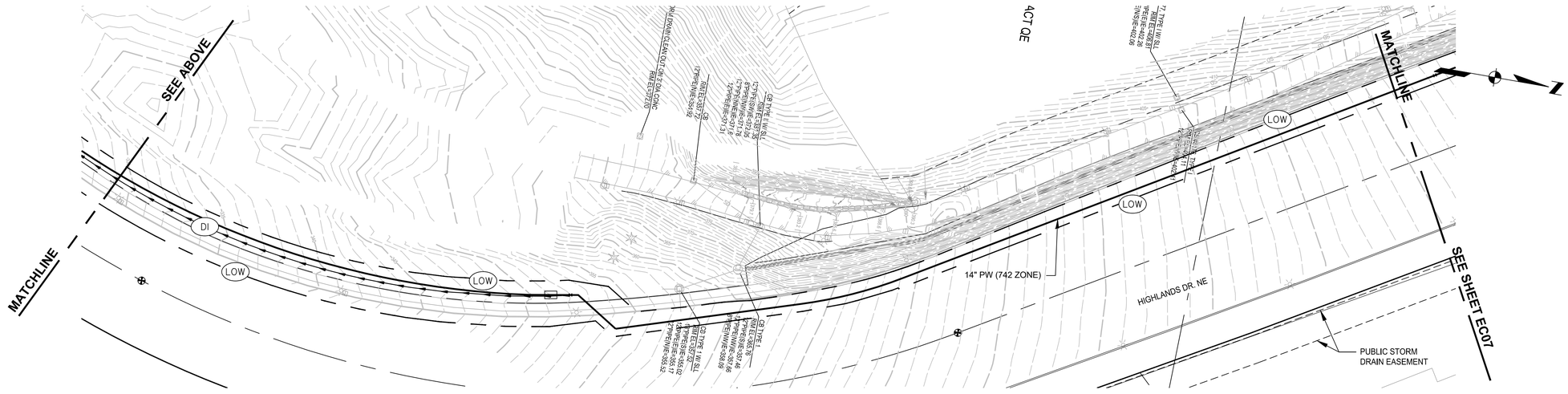


PLAN

0 20 40 60

1"=40'



PLAN

0 20 40 60

1"=40'

KEY PLAN

SCALE NONE

NOTES:

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2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.

ESC LEGEND:

LOW	WORK LIMITS
SF	SILT FENCE
IP	INLET PROTECTION
CE	CONSTRUCTION ENTRANCE
DI	DITCH WITH CHECK DAMS
CWA	CONCRETE WASHOUT
SE	SEEDING
MU	MULCHING
NET	NETS AND BLANKETS

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-EC06.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	20 OF 83
	EC06

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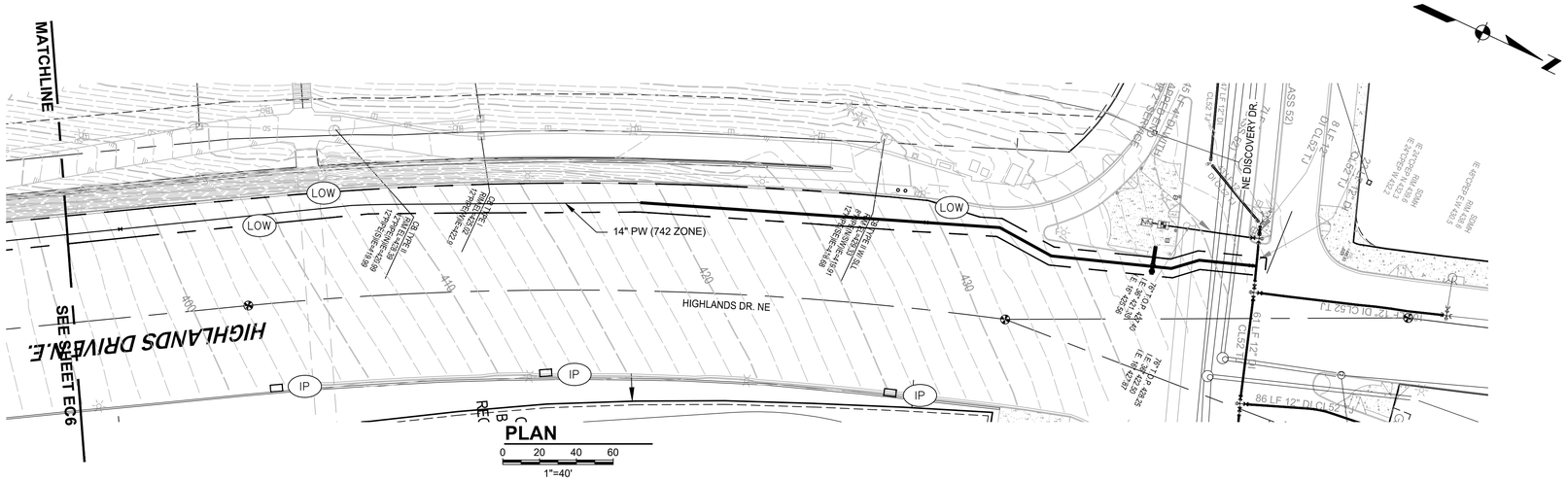
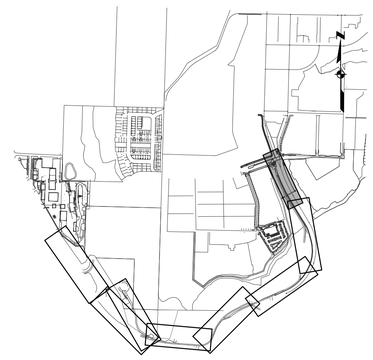


NOTES:

1. ALL ESC MESAURES SHOWN ARE CONSIDERED INITIAL AND INTERIM, EXCEPT FOR SEEDING AND MULCHING, WHICH ARE FINAL.
2. ALL ESC MEASURES SHALL BE REMOVED UPON COMPLETION OF SITE STABILIZATION.
3. INSTALL EROSION CONTROL BLANKET IN PROPOSED DITCH.

ESC LEGEND:

LOW	WORK LIMITS
SF	SILT FENCE
IP	INLET PROTECTION
CE	CONSTRUCTION ENTRANCE
DI	DITCH WITH CHECK DAMS
CWA	CONCRETE WASHOUT
SE	SEEDING
MU	MULCHING
NET	NETS AND BLANKETS



KEY PLAN
SCALE NONE

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN LMM
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-EC07.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 21 OF 83
EC07

\\FWY01\cad\CAD\13\1397005.00_City_of_Issaquah\139700500-EC07.dwg
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FIGURE D.3.2.B WATERWAY INSTALLATION

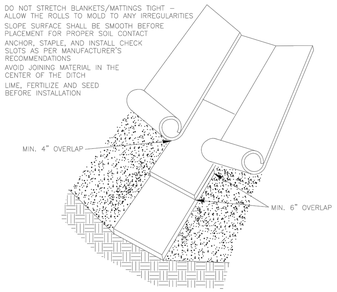
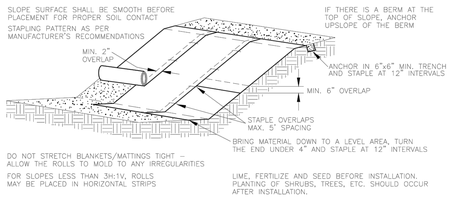


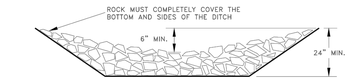
FIGURE D.3.2.C SLOPE INSTALLATION



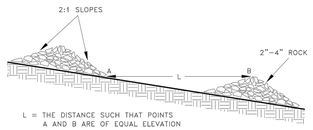
NETTING DETAIL

NOT TO SCALE

FIGURE D.3.6.E CHECK DAMS



CROSS SECTION



CHECK DAM SPACING

CHECK DAM DETAIL

NOT TO SCALE

FIGURE D.3.3.A SILT FENCE

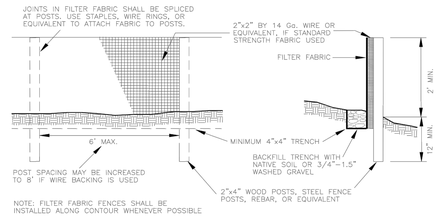
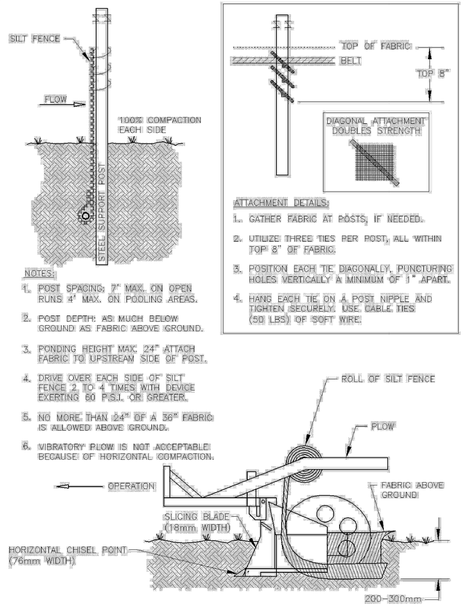


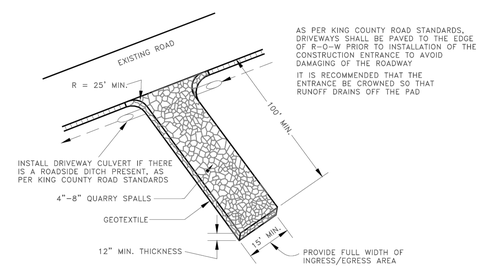
FIGURE D.3.3.B SILT FENCE INSTALLATION BY SLICING



SILT FENCE DETAIL

NOT TO SCALE

FIGURE D.3.4.A STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

FIGURE D.3.5.E FILTER FABRIC PROTECTION

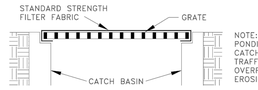


FIGURE D.3.5.F CATCH BASIN INSERT

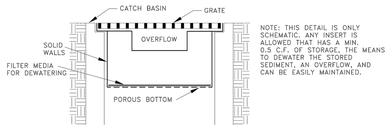
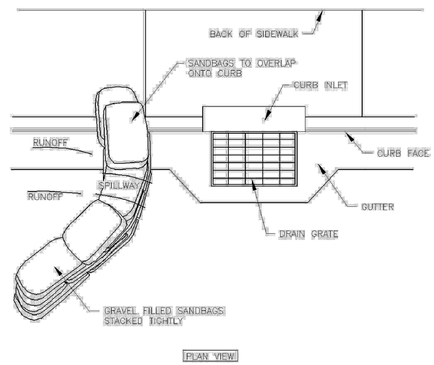


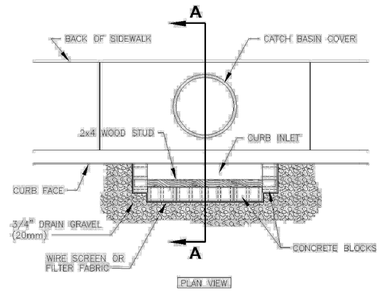
FIGURE D.3.5.H CURB AND GUTTER BARRIER PROTECTION



INLET PROTECTION DETAIL

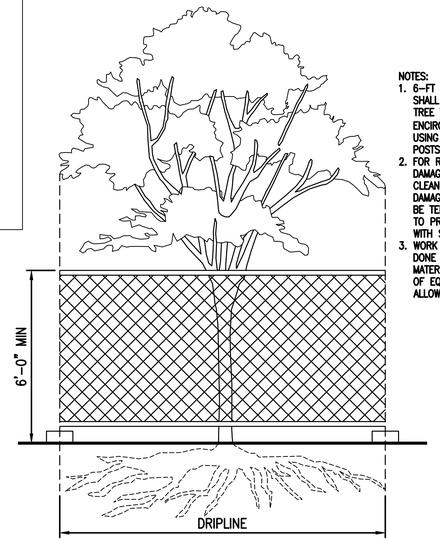
NOT TO SCALE

FIGURE D.3.5.G BLOCK AND GRAVEL CURB INLET PROTECTION



INLET PROTECTION DETAIL

NOT TO SCALE



NOTES:
1. 6-FT HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE DRIPLINE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). INSTALL FENCE POSTS USING PIER BLOCKS ONLY. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. FOR ROOTS OVER 1-INCH DIAMETER THAT ARE DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE THE DAMAGED PORTION. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING AND SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.

TREE PROTECTION DETAIL

NOT TO SCALE

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE EROSION CONTROL DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-EC08.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	EC08 OF

NOTES:

1. NEW FENCE. WSDOT STANDARD L-20.10-03 WITH 8 FOOT HEIGHT. INVERT FABRIC WHEN INSTALLING.
2. NEW DOUBLE GATE. WSDOT STANDARD L-30.10-02 WITH STRONG ARM GATE LATCH.
3. NEW SINGLE GATE. WSDOT STANDARD L-30.10-02.
4. CONCRETE POLE FOR SECURITY CAMERA. SEE SHEET S-4.
5. SIDEWALK. SEE DETAIL 3332 SHEET S4.
6. EXTEND PIPELINES FOR FUTURE RESERVOIR PAST END OF ASPHALT PAVING.
7. SEE MECHANICAL DRAWINGS FOR PIPING DETAILS.
8. SEE SHEETS C3 AND C4 FOR ACCESS ROAD PLAN AND PROFILE.
9. SEE SHEET C9 FOR DETAILED PUMP STATION GRADING PARTIAL PLAN.

REDUCED HYDROLOGY BUFFER

WETLANDS BOUNDARY

(F) 2.5 MG
108'Ø RESERVOIR

ROW

N: 197072.98
E: 1345447.25

N: 197066.41
E: 1345437.21

SEE SHEET CP3

15' WIDE PAVED ACCESS ROAD

12"

7.5'

N: 196994.46
E: 1345484.32

16" OF
14" PW (742 ZONE)
12" PW (297/520 ZONE)

28.5'

N: 196998.45
E: 1345454.81

19.5'

BOOSTER STATION

29.92'

N: 196958.18
E: 1345483.53

1 ½" C (FIBER, CITY) AND
1 ½" C (SIGNAL, CITY)
6" DR (BELOW)
4" C (POWER)

N: 197034.91
E: 1345389.10

86'

N: 197013.81
E: 1345408.90

TRANSFORMER
N: 196972.75
E: 1345465.62

N: 196962.96
E: 1345436.22

MATCHLINE

REDUCED HYDROLOGY BUFFER

PLAN

0 10 20 30
1"=20'

\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\C3D\13\1397005.00_City_of_Issaquah\1397005-00_City_of_Issaquah\139700500-C001.dwg
11/30/2020 10:16 PM
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USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY
STATE OF WASHINGTON
34536
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED DRP
DRAWN DRP
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE AND YARD PIPING PLAN

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-C001.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET 23 OF 83
C1

NOTES:

1. MAINTAIN 30' MINIMUM CLEARANCE BETWEEN STRUCTURES AND STEEP SLOPE.
2. SEE SHEETS C3 AND C4 FOR ACCESS ROAD PLAN AND PROFILE INCLUDING GRADING AND PAVING.

PLAN

0 10 20 30

1"=20'

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

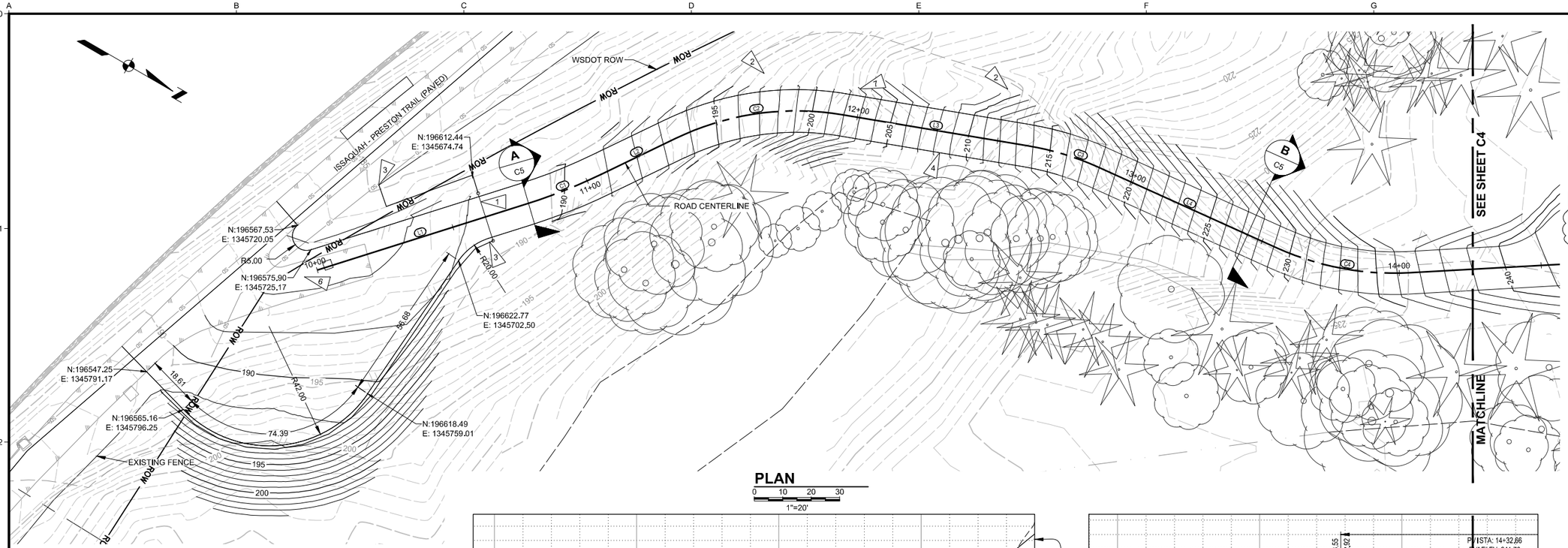
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SITE GRADING AND PAVING PLAN

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-C002.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET 24 OF 83
C2



NOTES:

1. NEW WSDOT GATE STANDARD L-30.10-02 SEE SHEET C9 FOR DETAILS.
2. ROCK PAD. SEE SHEET C7 FOR DETAILS.
3. CONTRACTOR TO DEMOLISH EXISTING 6 FT CHAIN LINK FENCE ACROSS ACCESS ROAD (APPROX. 127 LINEAR FEET). INSTALL NEW FENCH PER WSDOT STANDARD L-20.10-03 WITH 6 FOOT HEIGHT. SEE SHEET C10 FOR DETAILS.
4. (N) 15' WIDE ACCESS ROAD.
5. SEE SHEET C5 FOR ROAD SECTIONS, AND LINE AND CURVE TABLE.
6. LOWER ACCESS ROAD DRAINS TO DITCH ALONG TRAIL.
7. INSTALL THICKENED EDGE ALONG WEST SIDE OF ACCESS ROAD. STA 10+00 TO CHANGE IN CROSS SLOPE, APPROX. STA 12+00.

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 24576 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

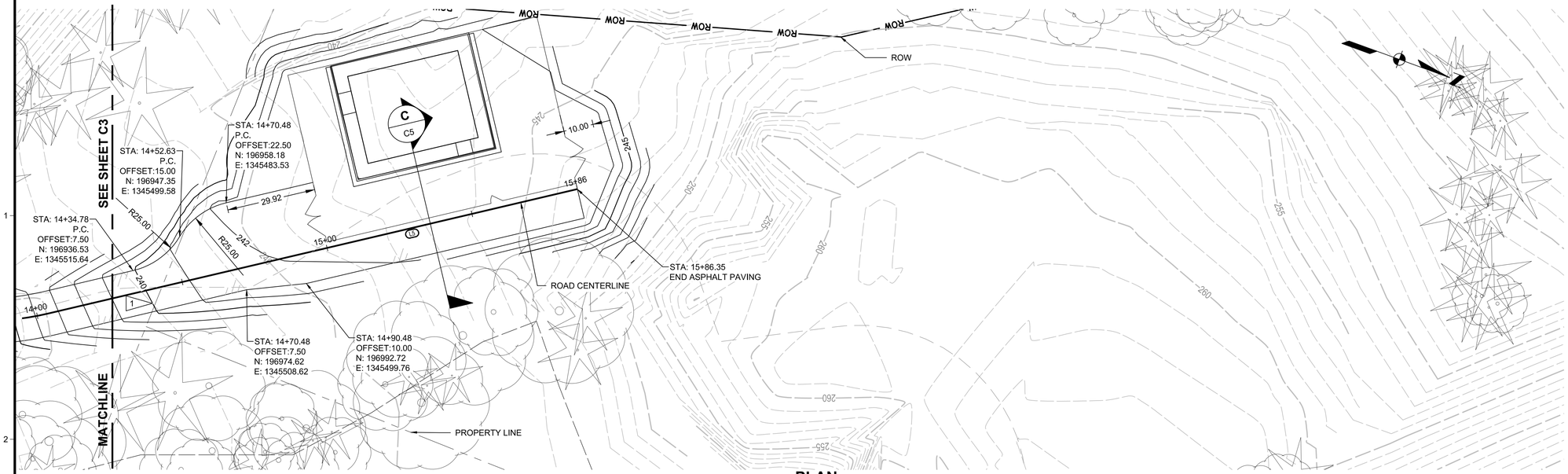
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

ACCESS ROAD PLAN AND PROFILE

90% SUBMITTAL (REVISED 11/30/2020)

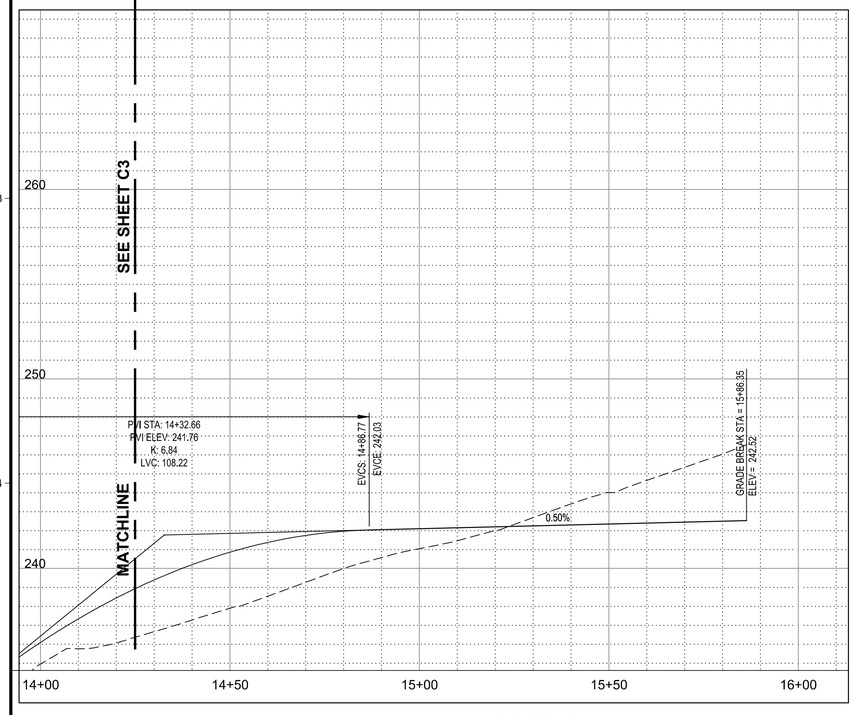
FILE NAME	139700500-C003.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	C3



PLAN

0 10 20 30

1"=20'



PROFILE

0 10 20 30

HORIZ. 1"=20'

0 2 4

VERT. 1"=4'

NOTES:

1 SEE SHEET C5 FOR ROAD SECTIONS, AND LINE AND CURVE TABLE.

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN
STATE OF WASHINGTON
24536
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

ACCESS ROAD PLAN AND PROFILE
STA 14+25 TO STA 17+80

90% SUBMITTAL (REVISED 11/30/2020)

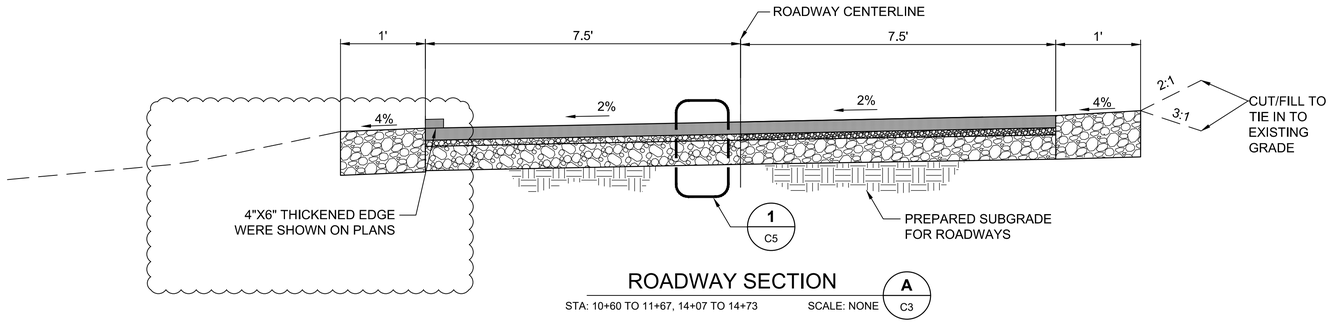
FILE NAME 139700500-C004.DWG

JOB NO. 1397005*00

DATE NOVEMBER 2020

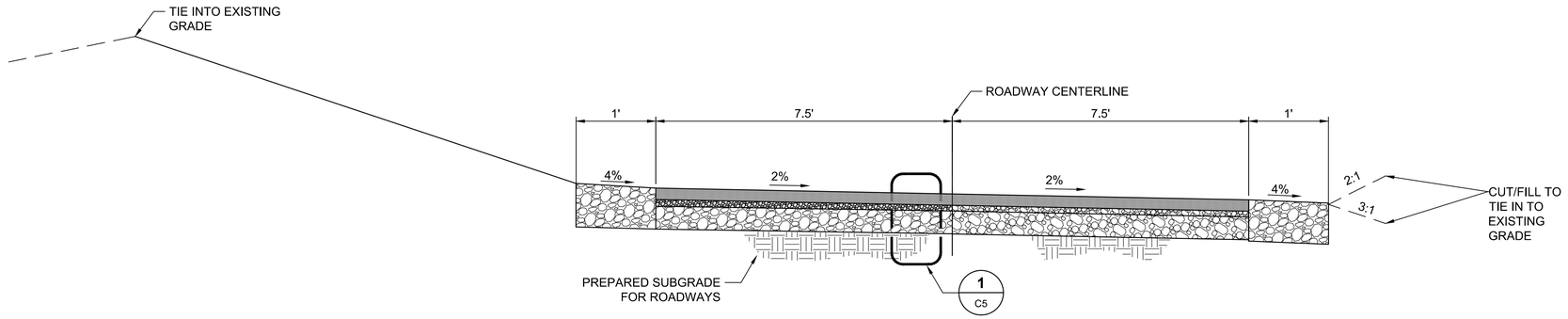
SHEET 26 OF 83

C4



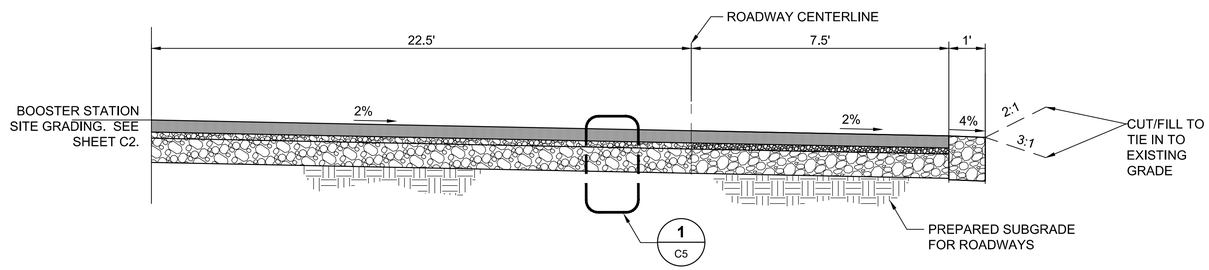
ROADWAY SECTION (A / C3)

STA: 10+60 TO 11+67, 14+07 TO 14+73 SCALE: NONE



ROADWAY SECTION (B / C3)

STA: 11+67 TO 14+07 SCALE: NONE

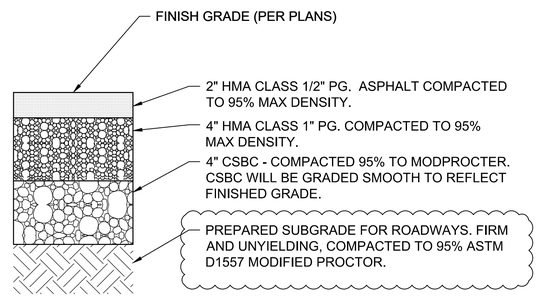


ROADWAY SECTION (C / C4)

STA:14+73 TO 15+86 SCALE: NONE

LINE/CURVE TABLE										
SEGMENT	LENGTH	BEARING/DELTA	RADIUS	TANGENT	START STATION	END STATION	START N	START E	END N	END E
L1	76.95	N47°31'57"W			10+00.00	10+76.95	196,581.44	1,345,730.23	196,633.39	1,345,673.46
C1	28.70	8°13'17"	200.00	14.37'	10+76.95	11+05.65	196,633.39	1,345,673.46	196,651.19	1,345,650.98
L2	28.79	N55°45'14"W			11+05.65	11+34.44	196,651.19	1,345,650.98	196,667.39	1,345,627.18
C2	60.23	35°17'14"	97.80	31.11'	11+34.44	11+94.67	196,667.39	1,345,627.18	196,714.04	1,345,590.59
L3	66.29	N20°28'00"W			11+94.67	12+60.96	196,714.04	1,345,590.59	196,776.14	1,345,567.41
C3	25.76	14°45'25"	100.00	12.95'	12+60.96	12+86.72	196,776.14	1,345,567.41	196,801.16	1,345,561.60
L4	69.07	N05°42'35"W			12+86.72	13+55.79	196,801.16	1,345,561.60	196,869.88	1,345,554.73
C4	48.01	27°30'22"	100.00	24.48'	13+55.79	14+03.79	196,869.88	1,345,554.73	196,914.71	1,345,538.88
L5	182.61	N33°12'57"W			14+03.79	15+86.40	196,914.71	1,345,538.88	197,067.48	1,345,438.85

ACCESS ROAD SEGMENT TABLE



NOTES:
PAVING LIMITS ARE PROVIDED ON SHEETS CP20 TO CP26.

ACCESS ROAD PAVEMENT DETAIL (1 / C5)

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

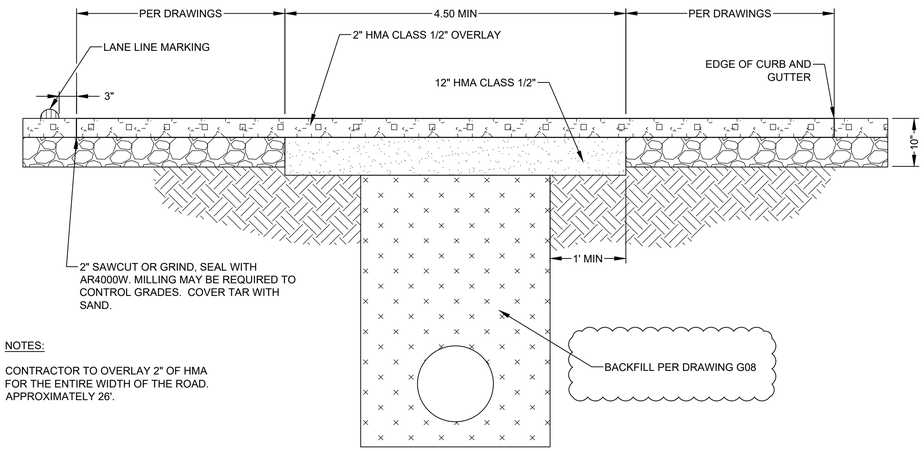
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SECTIONS AND DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-C005.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET C5 OF



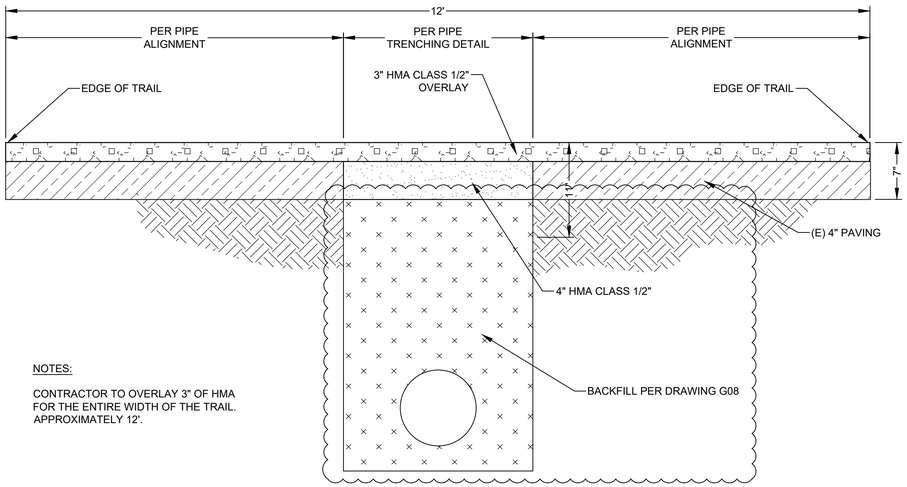
NOTES:

CONTRACTOR TO OVERLAY 2" OF HMA FOR THE ENTIRE WIDTH OF THE ROAD. APPROXIMATELY 26'.

ASPHALT PATCHBACK IN 1ST AVE NE

STA 1+00 TO 6+30

3
CP20
CP21



NOTES:

CONTRACTOR TO OVERLAY 3" OF HMA FOR THE ENTIRE WIDTH OF THE TRAIL. APPROXIMATELY 12'.

ASPHALT PATCHBACK IN ISSAQUAH PRESTON TRAIL

STA 6+30 TO 20+00 AND STA 50+50 TO STA 51+50

4A
CP1
CP2
CP21
CP22
CP23
CP31

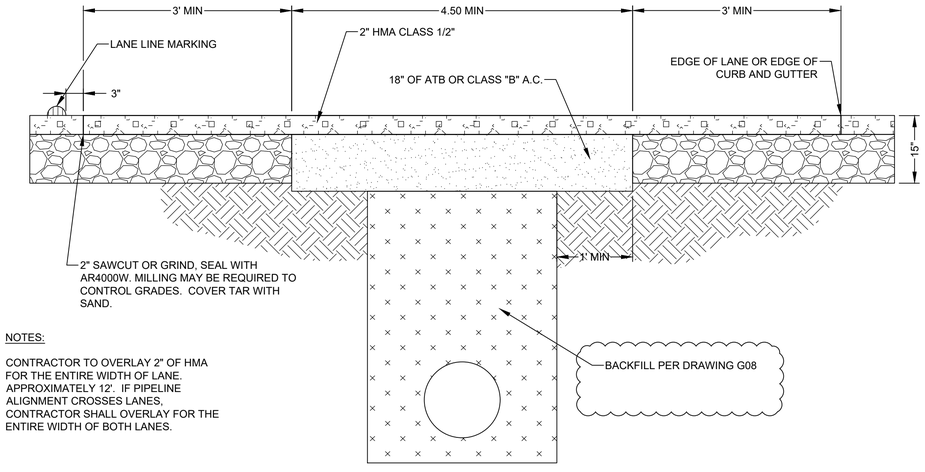
NOTES:

CONTRACTOR TO OVERLAY 2" OF HMA FOR THE ENTIRE WIDTH OF THE TRAIL. APPROXIMATELY 12'.

ASPHALT PATCHBACK IN ISSAQUAH PRESTON TRAIL

STA 51+50 TO 65+30 AND STA 66+70 TO 78+70

4B
CP24
CP25
CP31



NOTES:

CONTRACTOR TO OVERLAY 2" OF HMA FOR THE ENTIRE WIDTH OF LANE, APPROXIMATELY 12'. IF PIPELINE ALIGNMENT CROSSES LANES, CONTRACTOR SHALL OVERLAY FOR THE ENTIRE WIDTH OF BOTH LANES.

ASPHALT PATCHBACK IN HIGHLANDS DRIVE

STA 78+70 TO 90+92

5
CP26

NOTES:

1. DETAILS ARE FOR PAVING REQUIREMENTS ONLY. SEE PIPELINE DRAWINGS (CP1-CP8) FOR ALIGNMENT. PAVING DETAILS ARE REFERENCED ON SECTION VIEWS, SEE DRAWINGS CP20 TO CP26.
2. FOR PAVING LIMITS SEE DRAWINGS CP20 TO CP26.

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN RJS

CHECKED MDL

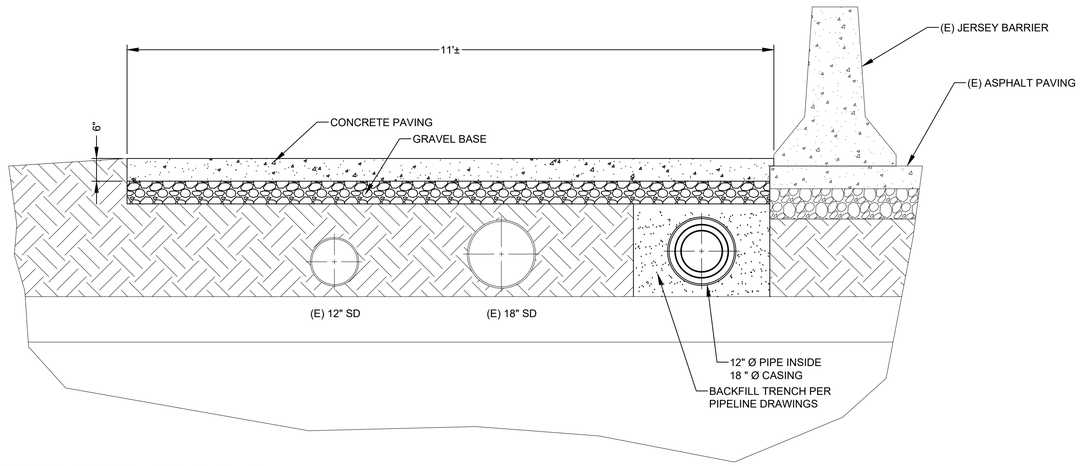
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CIVIL DETAILS - 1

90% SUBMITTAL (REVISED 11/30/2020)

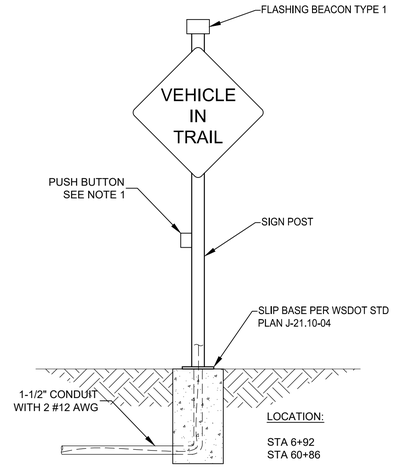
FILE NAME 139700500-C006.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET C6 OF



NOTES:

1. CONTRACTOR TO REMOVE (E) 4-INCH THICK ASPHALT AND RE-PAVE WITH 6-INCH THICK CONCRETE. MATCH GRADE WITH ASPHALT PAVING OVERLAY ON BOTH ENDS.
2. FOR PAVING LIMITS SEE SHEETS CP20 TO CP26.

CONCRETE PAVING AT PEDESTRIAN TUNNEL — 6 — CP5

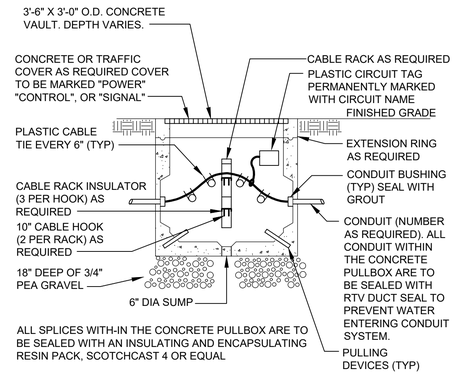


NOTES:

1. PROVIDE SIGN AND POST ASSEMBLY PER WSDOT STANDARD DETAIL J-21.16-01 EXCEPT AS MODIFIED ABOVE.
2. BEACON ACTIVATION TO BE FROM POSITION SWITCH UNDERNEATH REMOVABLE BOLLARD, ACTIVATION BUTTON ON SIGN POST, OR FROM CONTROL SYSTEM AT PUMP STATION. ACTIVATION BUTTON TO BE INSTALLED IN A LOCKING ENCLOSURE.
3. FOR FLASHING BEACON WARNING SEE WSDOT STD PLAN J-21.17-01.

VEHICLE IN TRAIL SIGN — 7 — CP1, CP5

(NOT USED) — 8 — C1



LOCATION:

STA 5+38
STA 9+84
STA 14+37
STA 54+79
STA 58+17

TELEMETRY PULLBOX INSTALLATION — 9 — CP1, CP2, CP4, CP5

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN RJS

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CIVIL DETAILS - 2

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-C007.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET 29 OF 83
C7

11/30/2020 10:02 PM DANPHIPPS

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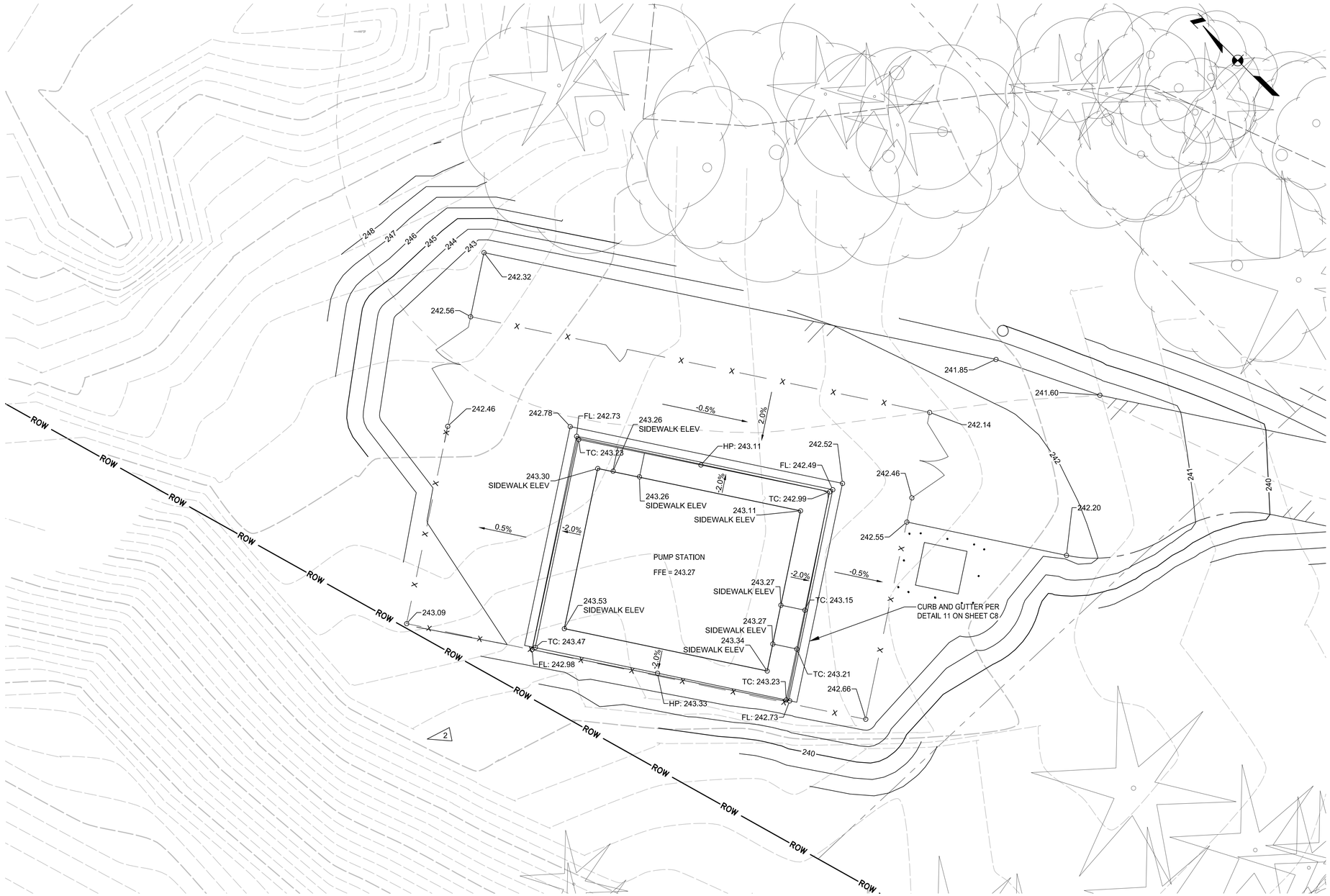


NOTES:

1. SEE SHEETS C3 AND C4 FOR ACCESS ROAD PLAN AND PROFILE.

2 MAINTAIN 30' MINIMUM CLEARANCE BETWEEN STRUCTURES AND STEEP SLOPE.

PARTIAL GRADING PLAN

0 10 20

1"=10'

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

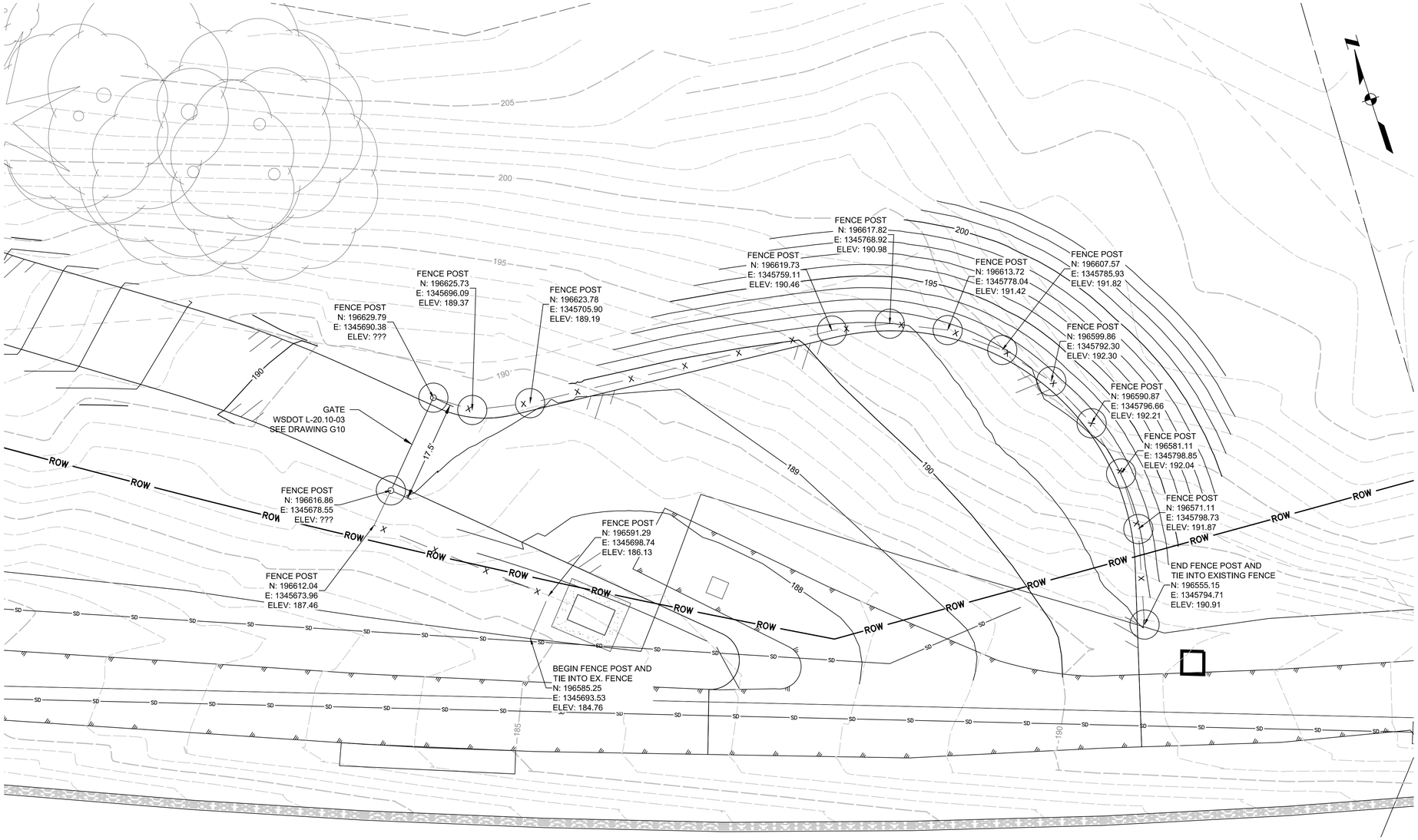
PUMP STATION GRADING PARTIAL PLAN

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-C008.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	30 OF 83
	C8

NOTES:

1. INSTALL 6'-0" HEIGHT CHAIN LINK FENCE TYPE 3 PER WSDOT STANDARD PLAN L-20.10-03. SEE DRAWING G10.
2. ELEVATIONS PROVIDED ARE FOR THE BASE OF THE 6'-0" FENCE



ACCESS ROAD GATE AND FENCE PLAN

0 10 20

1"=10'

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

ACCESS ROAD GATE AND FENCE PLAN

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-C009.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET 31 OF 83
C9

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

SHEET NOT USED

FILE NAME 139700500-C010.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 32 OF 83

C10

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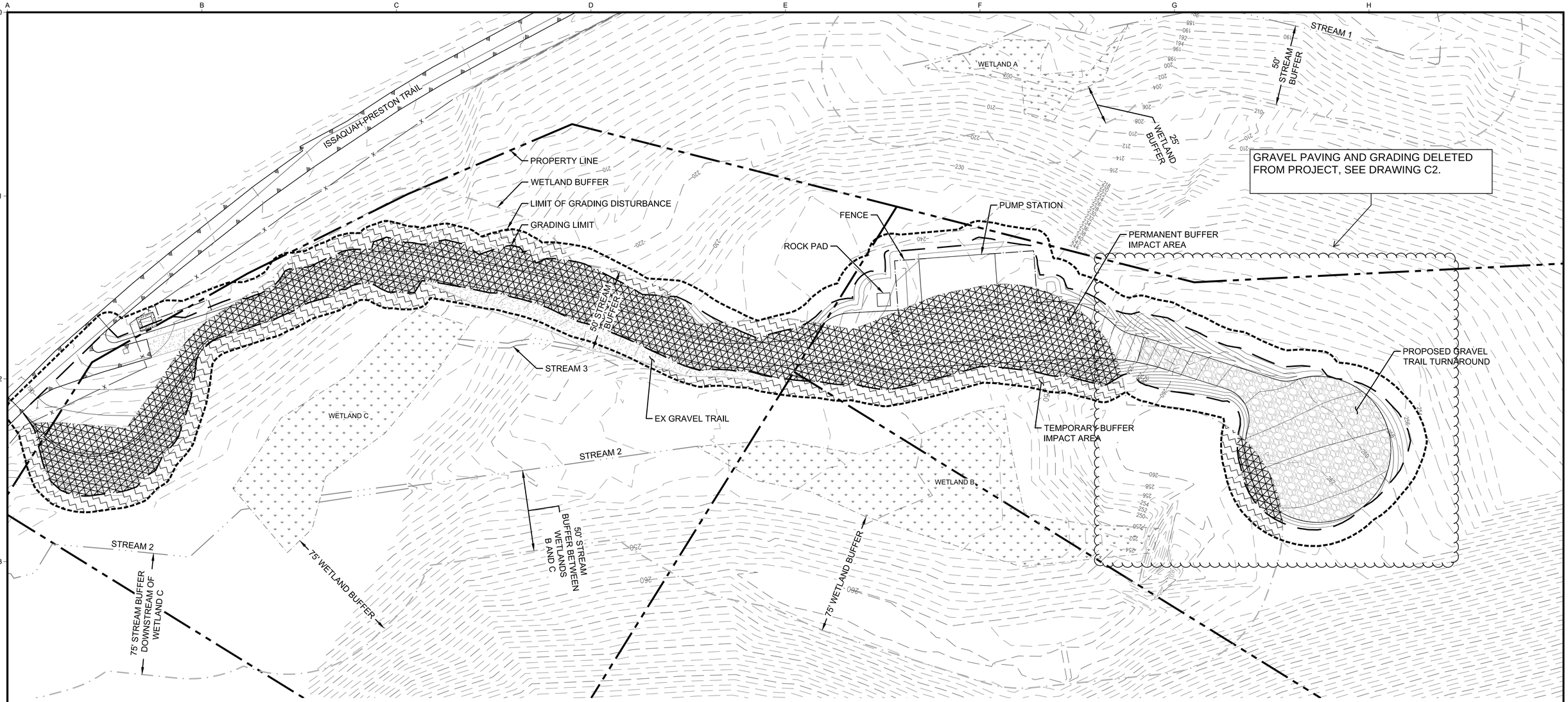


LEGEND

- TEMPORARY BUFFER IMPACT AREA (9,593 SF)
- PERMANENT BUFFER IMPACT AREA (23,659 SF)

NOTES

1. SEE SHEET L2 FOR THE BUFFER MITIGATION PLAN.
2. SEE SHEET L3 FOR BUFFER MITIGATION PLANTING DETAILS, NOTES, AND SCHEDULES.

N

30 15 0 30 60
SCALE FEET

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STATE OF WASHINGTON · ALISONA B. GREENBERG · NO. 1047 EXP. 2/28/2021 · LANDSCAPE ARCHITECT

DESIGNED ABG
DRAWN ABG
CHECKED SAR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

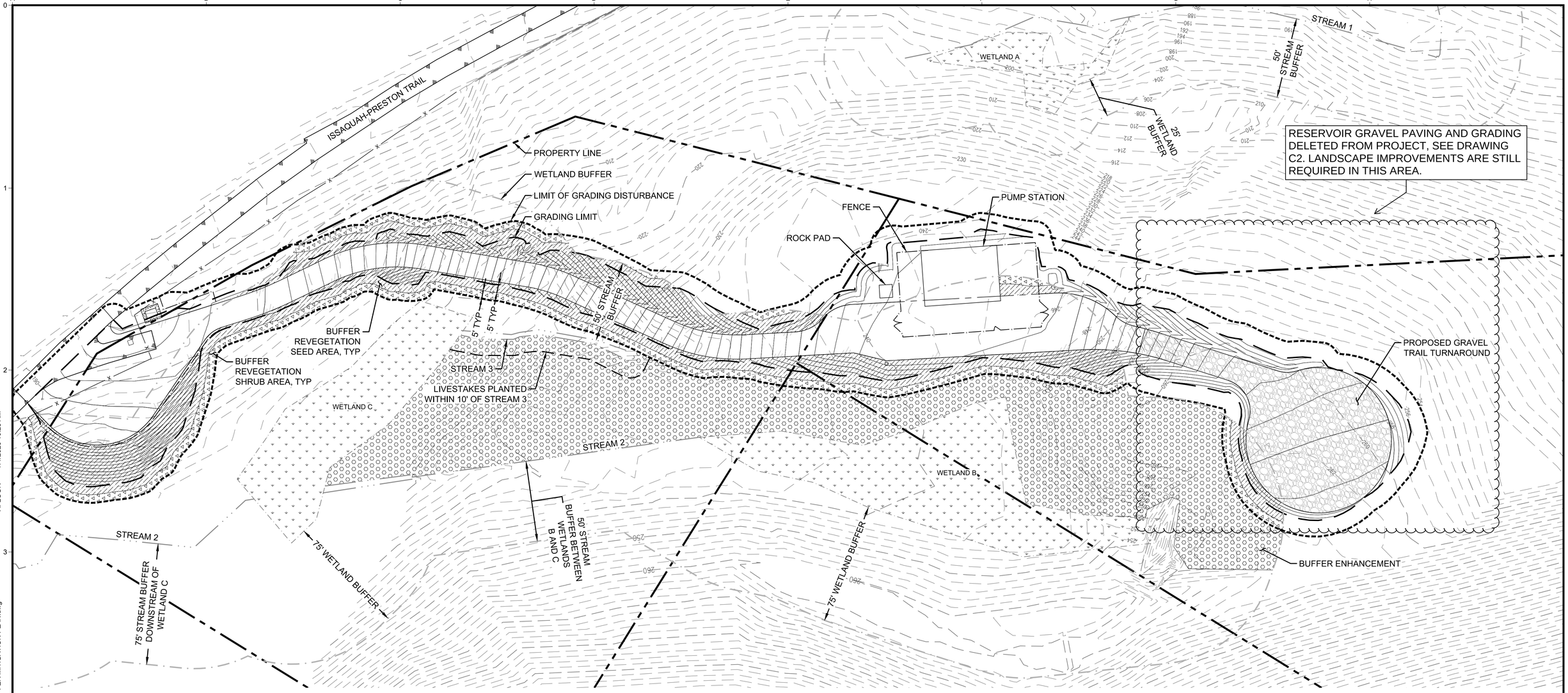
Environmental Science Associates
SEATTLE, WASHINGTON

BUFFER IMPACTS PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME
JOB NO. 1397005*00
DATE JUNE 2020
SHEET L1 OF

U:\Projects\SEA\16xxxx\D160917.00 S.SPAR Booster Pump Station\08_CAD\Dwgs\90% REVISED\L1 BUFFER IMPACTS PLAN.dwg
AFLOOR 7/1/2020 10:26 AM



LEGEND

- BUFFER ENHANCEMENT AREA (23,982 SF)
- BUFFER REVEGETATION SHRUB AREA (5,569 SF)
- BUFFER REVEGETATION SEED AREA (15,348 SF)

NOTES

1. SEE SHEET L3 FOR BUFFER MITIGATION PLANTING DETAILS, NOTES, AND SCHEDULES.
2. SEE SHEET L5 FOR TREE MITIGATION PLANTING PLAN.

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SCALE FEET

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STATE OF WASHINGTON · ALLISONA B. GREENBERG · NO 10437 EXP. 2/28/2021 · LANDSCAPE ARCHITECT

DESIGNED ABG
DRAWN ABG
CHECKED SAR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

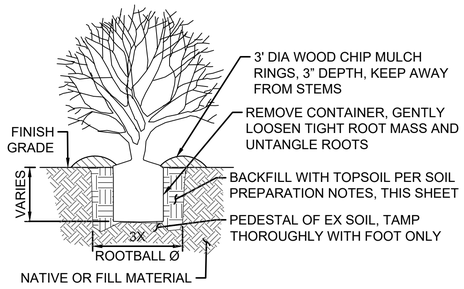
Environmental Science Associates
SEATTLE, WASHINGTON

BUFFER MITIGATION PLAN

90% SUBMITTAL (REVISED 7/1/2020)

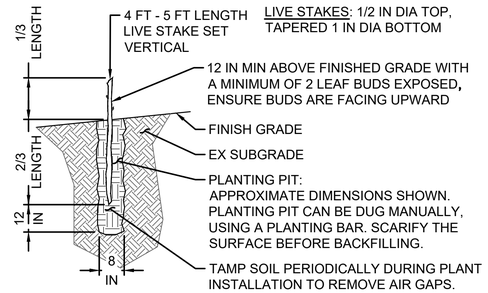
FILE NAME
JOB NO. 1397005*00
DATE JUNE 2020
SHEET L2 OF

AFLOOR 7/1/2020 10:23 AM
U:\Projects\SEA\16xxxx\D160917.00 S.SPAR Booster Pump Station\08_CAD\Dwgs\90% REVISED\L2 BUFFER MITIGATION PLAN.dwg



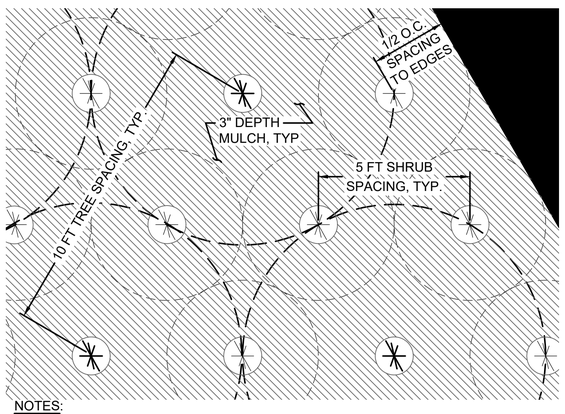
1 -- CONTAINER PLANTING

DETAIL — SCALE: NTS



3 -- LIVESTAKE PLANTING

DETAIL — SCALE: NTS

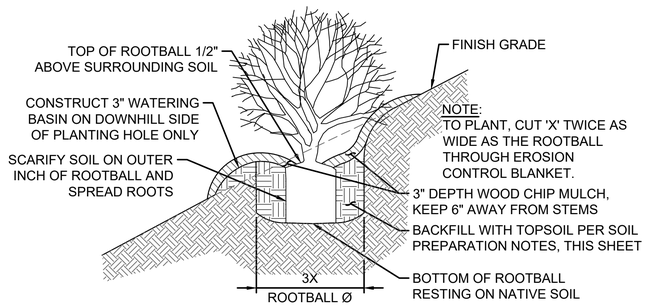


NOTES:

1. PLANTING LAYOUT IS CONCEPTUAL AND INTENDED TO SHOW GROUPINGS OF SIMILAR SPECIES OF PLANTS.
3. GROUP EACH SPECIES IN ODD-NUMBERED CLUSTERS OF 3 TO 9 EXCEPT WHERE NOTED OTHERWISE.
4. PLANT LAYOUT AND TRIANGULAR SPACING MAY BE ADJUSTED TO MEET FIELD CONDITIONS WITH THE ACCEPTANCE OF THE ENGINEER.
5. SURROUND EACH TREE WITH SHRUBS, RETAINING THE 5 FT O.C. SPACING OF THE SHRUBS AS SHOWN IN THIS DETAIL.

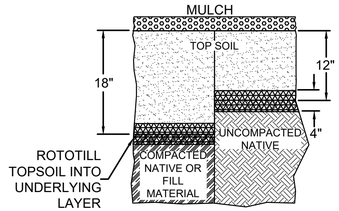
4 -- TYPICAL PLANTING LAYOUT

DETAIL — SCALE: NTS

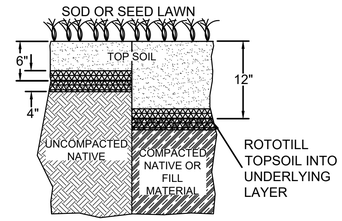


2 -- SLOPE PLANTING

DETAIL — SCALE: NTS



TOP SOIL REQUIREMENTS FOR TREE AND SHRUB BEDS



TOP SOIL REQUIREMENTS FOR LAWNS

5 -- SOIL PREPARATION

DETAIL — SCALE: NTS

SOIL PREPARATION NOTES

1. CLEAR AND GRUB ALL PLANTING AREAS WITHIN THE LIMIT OF GRADING DISTURBANCE. PLANTING AREAS OUTSIDE THE LIMIT OF GRADING DISTURBANCE SHALL BE CLEARED OF INVASIVE VEGETATION ONLY AS NEEDED WHILE PROTECTING EXISTING TREES TO BE RETAINED.
2. WITHIN THE LIMIT OF GRADING DISTURBANCE ADD TOPSOIL TYPE A TO AREAS TO BE PLANTED OR SEEDED AS SHOWN IN SOIL PREPARATION DETAILS, THIS SHEET. OUTSIDE THE LIMIT OF GRADING DISTURBANCE USE TOPSOIL TYPE B FOR INFILL PLANTING PITS ONLY. IF THERE IS INSUFFICIENT TOPSOIL TYPE B THEN TOPSOIL TYPE C MAY BE USED UPON APPROVAL FROM OWNER'S REPRESENTATIVE.
3. SEEDING
4. EROSION CONTROL BLANKET
5. CONTAINER PLANTING
6. INSTALL 3-FOOT DIAMETER, 3-INCH DEPTH MULCH RINGS FOR ALL CONTAINER PLANTS.

BUFFER ENHANCEMENT PLANTING SCHEDULE (23,982 SF)

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QUANTITY
TREES:				
PICEA SITCHENSIS	SITKA SPRUCE	1 GAL. CONTAINER	10' O.C.	53
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	1 GAL. CONTAINER	10' O.C.	53
RHAMNUS PURSHIANA	CASCARA	1 GAL. CONTAINER	10' O.C.	52
SALIX LUCIDA	PACIFIC WILLOW	1 GAL. CONTAINER	10' O.C.	52
THUJA PLICATA	WESTERN RED CEDAR	1 GAL. CONTAINER	10' O.C.	53
SHRUBS:				
ACER CIRCINATUM	VINE MAPLE	1 GAL. CONTAINER	5' O.C.	131
LONICERA INVOLUCRATA	TWINBERRY	1 GAL. CONTAINER	5' O.C.	132
MAHONIA AQUIFOLIUM	TALL ORGEON GRAPE	1 GAL. CONTAINER	5' O.C.	131
OEMLERIA CERASIFORMIS	INDIAN PLUM	1 GAL. CONTAINER	5' O.C.	131
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	1 GAL. CONTAINER	5' O.C.	131
RIBES LACUSTRE	PRICKLY CURRANT	1 GAL. CONTAINER	5' O.C.	131
LIVESTAKES:				
SALIX HOOKERIANA	HOOKER'S WILLOW	LIVESTAKE	3' O.C.	54
SALIX LASIANDRA	PACIFIC WILLOW	LIVESTAKE	3' O.C.	53
SALIX SITCHENSIS	SITKA WILLOW	LIVESTAKE	3' O.C.	54

BUFFER REVEGETATION SHRUB PLANTING SCHEDULE (5,569 SF)

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QUANTITY
SHRUBS:				
ACER CIRCINATUM	VINE MAPLE	1 GAL. CONTAINER	5' O.C.	30
LONICERA INVOLUCRATA	TWINBERRY	1 GAL. CONTAINER	5' O.C.	30
MAHONIA AQUIFOLIUM	TALL ORGEON GRAPE	1 GAL. CONTAINER	5' O.C.	30
OEMLERIA CERASIFORMIS	INDIAN PLUM	1 GAL. CONTAINER	5' O.C.	29
PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	1 GAL. CONTAINER	5' O.C.	30
POLYSTICHUM MUNITUM	SWORD FERN	1 GAL. CONTAINER	5' O.C.	30

BUFFER REVEGETATION SEED SCHEDULE (15,348 SF)

BOTANICAL NAME	COMMON NAME	DISTRIBUTION BY WEIGHT	RATE
AGROSTIS EXARATA	SPIKE BENTGRASS	10%	APPLY 20 LBS. PER ACRE
DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	15%	
DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	20%	
HORDEUM BRACHYANTHERUM	MEADOW BARLEY	55%	

BUFFER MITIGATION PLANTING NOTES

CLEARING AND TREE PROTECTION

1. REMOVE ALL INVASIVE SPECIES FROM THE MITIGATION AREAS PRIOR TO INSTALLATION USING METHODS APPROVED BY THE STATE OF WASHINGTON NOXIOUS WEED CONTROL BOARD AND AS INDICATED IN THE SPECIFICATIONS. SPECIFIC SPECIES TO BE REMOVED INCLUDE HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS), ENGLISH IVY (HEDERA HELIX), ENGLISH HOLLY (ILEX AQUIFOLIUM), KNOTWEED (POLYGONUM SPP.), AND REED CANARYGRASS (PHALARIS ARUNDINACEA).
2. PRESERVE AND PROTECT ALL EXISTING VEGETATION NOT DESIGNATED FOR REMOVAL. PROVIDE, ERECT AND MAINTAIN TEMPORARY FENCING TO PREVENT ACCESS TO EXISTING WETLANDS OR WETLAND BUFFERS BY ANY VEHICLES. SEE SHEET EC8 FOR TREE PROTECTION DETAIL.
3. DO NOT DRIVE OR PARK ANY VEHICLES OR EQUIPMENT, STORE MATERIALS, STOCKPILE SOIL OR GRAVEL, OR DISPOSE OF ANY CONSTRUCTION OR WASTE MATERIAL WITHIN EXISTING WETLANDS OR WETLAND BUFFER OR NEAR NEWLY INSTALLED PLANTS. RESTRICT FOOT TRAFFIC WITHIN PROTECTED AREAS.

PLANTING

4. ASSUME TRIANGULAR SPACING FOR ALL PLANT SPACING ON PLANTING SCHEDULES.
5. PLANTING AREAS SHOULD BE STAKED IN THE FIELD FOR ACCEPTANCE BY THE ENGINEER PRIOR TO INSTALLATION.
6. PRIOR TO PLANTING, PLACE ALL PLANTS AS INDICATED ON THE PLANS, OR MARK EACH LOCATION WITH WOOD STAKES OR COLOR WIRE FLAGS MARKED WITH THE FIRST TWO LETTERS OF BOTH PLANT GENUS AND SPECIES (E.G. PHCA FOR PHYSOCARPUS CAPITATUS). NO PLANTING HOLES SHALL BE DUG OR BACKFILLED WITHOUT PRIOR APPROVAL OF ENGINEER. NOTIFY ENGINEER A MINIMUM OF 72 HOURS BEFORE PLANTING TO ALLOW AMPLE TIME TO ADJUST PLANT LOCATIONS. PROVIDE EXTRA STAKES OR FLAGS SUFFICIENT TO MARK LOCATIONS OF PLANTS NOT LOCATED ON PLAN.
7. APPLY BUFFER REVEGETATION SEED MIX ALONG ROADSIDE AREAS AS SHOWN ON PLANS AND IN BUFFER AREAS OUTSIDE OF SHOWN PLANTING REGIONS WHERE PLANTING WORK HAS IMPACTED EXISTING VEGETATION.
8. REMOVE PLANT TAGS AND CLEAN UP AREA PER SPECIFICATION 8-02.3(13).

NO.	REVISION	DATE	BY

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STATE OF WASHINGTON · ALLISONA B. GREENBERG · NO. 1047 EXP. 2/28/2021 · LANDSCAPE ARCHITECT

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CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Environmental Science Associates
SEATTLE, WASHINGTON

BUFFER MITIGATION DETAILS

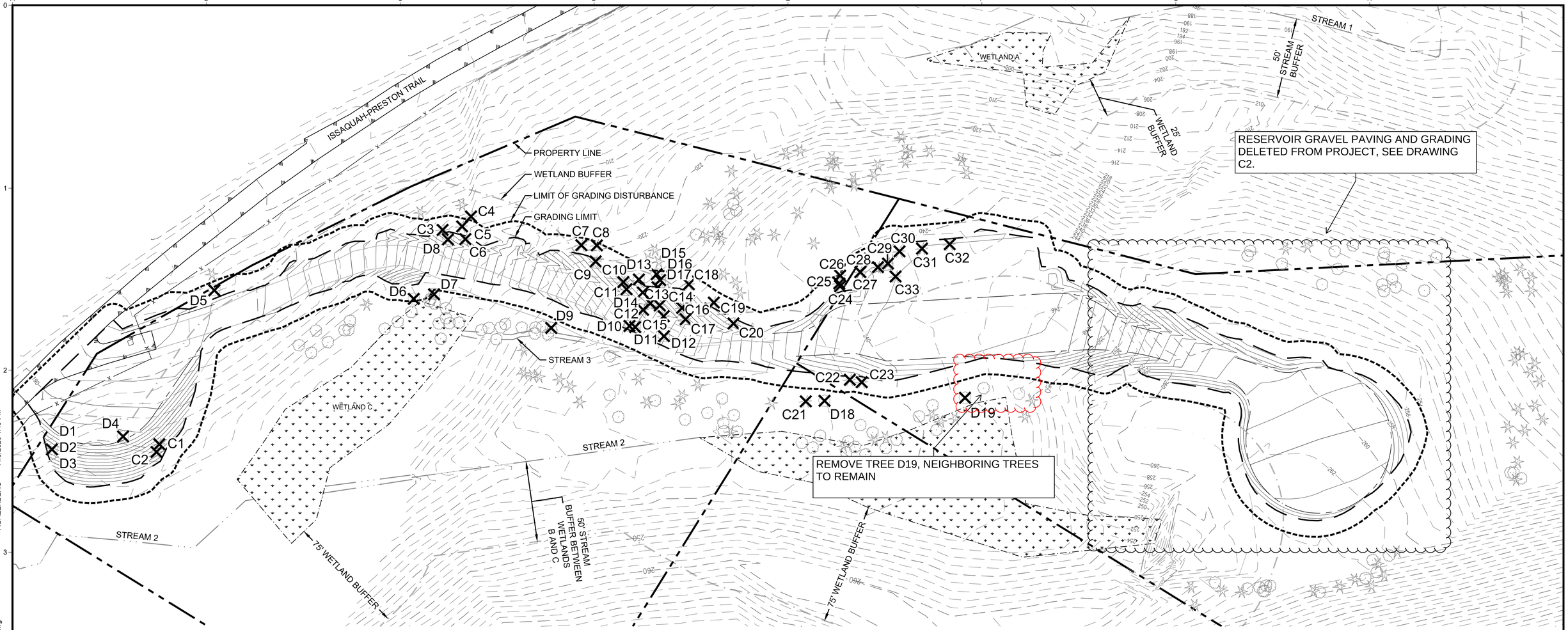
90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME

JOB NO. 1397005*00

DATE JUNE 2020

SHEET L3 OF



DECIDUOUS TREE REMOVAL TABLE

TREE #	SPECIES	SIZE (DBH)
D1	BIGLEAF MAPLE	7
D2	BIGLEAF MAPLE	5
D3	BIGLEAF MAPLE	4
D4	DECIDUOUS	22
D5	ALDER	6
D6	COTTONWOOD	14
D7	COTTONWOOD	18
D8	COTTONWOOD	20
D9	ALDER	7
D10	ALDER	7
D11	ALDER	6
D12	ALDER	6
D13	COTTONWOOD	7
D14	ALDER	7
D15	COTTONWOOD	23
D16	COTTONWOOD	13
D17	COTTONWOOD	19

DECIDUOUS TREE REMOVAL TABLE

TREE #	SPECIES	SIZE (DBH)
D18	COTTONWOOD	17
D19	ALDER	13
	COMBINED DBH TOTAL:	221

CONIFEROUS TREE REMOVAL TABLE

TREE #	SPECIES	SIZE (DBH)
C1	DOUGLAS FIR	13
C2	DOUGLAS FIR	9
C3	DOUGLAS FIR	9
C4	DOUGLAS FIR	13
C5	DOUGLAS FIR	7
C6	DOUGLAS FIR	10
C7	DOUGLAS FIR	17
C8	DOUGLAS FIR	16
C9	DOUGLAS FIR	15
C10	DOUGLAS FIR	6
C11	DOUGLAS FIR	14
C12	DOUGLAS FIR	9
C13	DOUGLAS FIR	13
C14	DOUGLAS FIR	6
C15	DOUGLAS FIR	8
C16	DOUGLAS FIR	17
C17	DOUGLAS FIR	8

CONIFEROUS TREE REMOVAL TABLE

TREE #	SPECIES	SIZE (DBH)
C18	DOUGLAS FIR	6
C19	DOUGLAS FIR	10
C20	DOUGLAS FIR	19
C21	DOUGLAS FIR	18
C22	DOUGLAS FIR	25
C23	DOUGLAS FIR	12
C24	DOUGLAS FIR	12
C25	DOUGLAS FIR	9
C26	DOUGLAS FIR	13
C27	DOUGLAS FIR	13
C28	DOUGLAS FIR	14
C29	DOUGLAS FIR	12
C30	DOUGLAS FIR	15
C31	DOUGLAS FIR	9
C32	DOUGLAS FIR	17
C33	DOUGLAS FIR	16
	COMBINED DBH TOTAL:	410

NOTES

1. SEE SHEET L5 FOR TREE MITIGATION PLAN, PLANTING SCHEDULE, AND PLANTING NOTES.
2. SEE SHEET L3 FOR PLANTING DETAILS AND SOIL PREPARATION NOTES.
3. PER THE ROADSIDE POLICY MANUAL (WSDOT, 2015), EACH REPLACEMENT 1 GALLON CONTAINER TREE OFFSETS 1 INCH DBH REMOVED. 2 GALLON CONTAINERS EACH OFFSET 2 INCH DBH REMOVED.

N

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CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Environmental Science Associates
SEATTLE, WASHINGTON

TREE IMPACTS PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME
JOB NO. 1397005*00
DATE JUNE 2020
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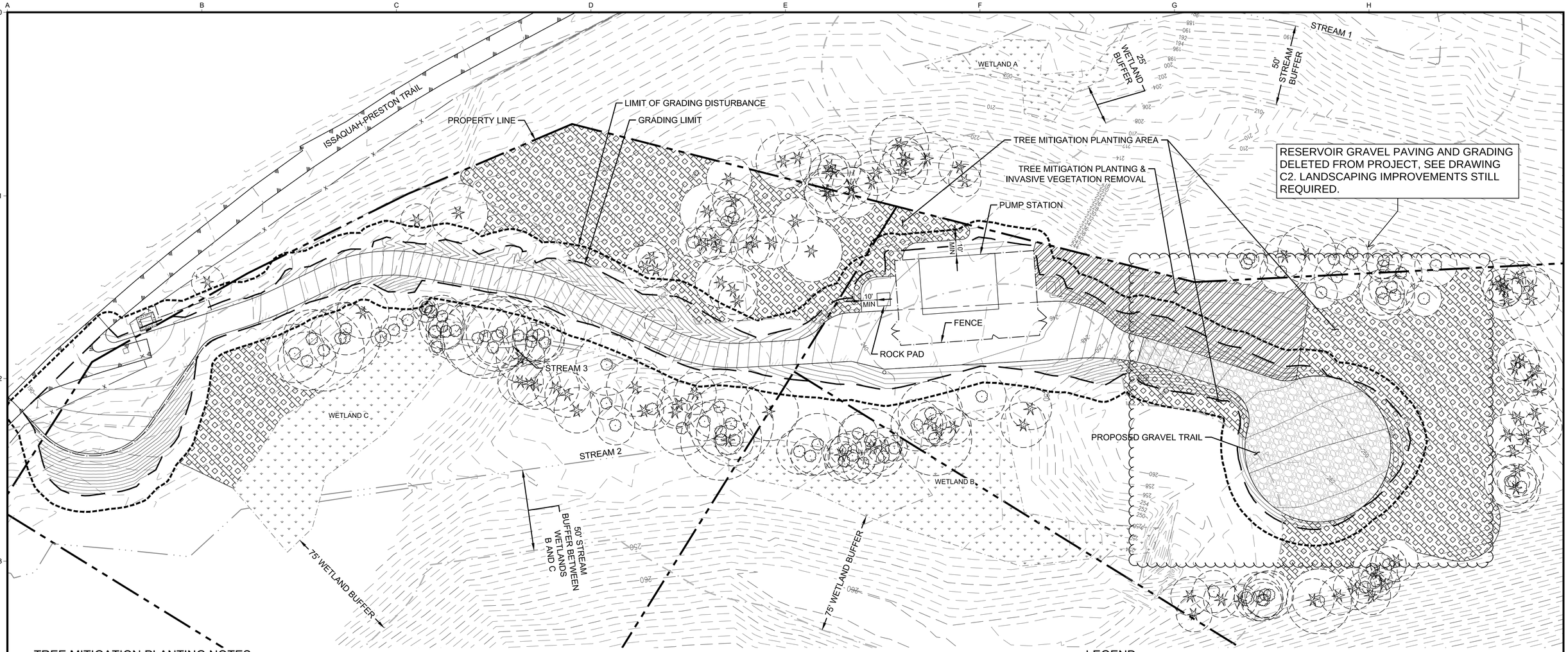

TREE MITIGATION PLANTING NOTES

1. SEE DETAILS ON SHEET L3 FOR PLANTING AND SOIL PREPARATION DETAILS.
2. REMOVE ALL INVASIVE SPECIES FROM THE TREE MITIGATION PLANTING AREAS PRIOR TO INSTALLATION USING METHODS APPROVED BY THE STATE OF WASHINGTON NOXIOUS WEED CONTROL BOARD AND AS INDICATED IN THE SPECIFICATIONS. SPECIFIC SPECIES TO BE REMOVED INCLUDE HIMALAYAN BLACKBERRY (RUBUS ARMENIACUS) AND SCOTCH BROOM (CYTISUS SCOPARIUS).
3. PRESERVE AND PROTECT ALL EXISTING VEGETATION NOT DESIGNATED FOR REMOVAL. PROVIDE, ERECT AND MAINTAIN TEMPORARY FENCING TO PREVENT ACCESS TO EXISTING WETLANDS OR WETLAND BUFFERS BY ANY VEHICLES.
4. DO NOT DRIVE OR PARK ANY VEHICLES OR EQUIPMENT, STORE MATERIALS, STOCKPILE SOIL OR GRAVEL, OR DISPOSE OF ANY CONSTRUCTION OR WASTE MATERIAL WITHIN EXISTING WETLANDS OR WETLAND BUFFER OR NEAR NEWLY INSTALLED PLANTS. RESTRICT FOOT TRAFFIC WITHIN PROTECTED AREAS.
5. SEED SOURCE MUST BE AS LOCAL AS POSSIBLE, AND PLANTS MUST BE NURSERY PROPAGATED UNLESS TRANSPLANTED FROM ON-SITE AREAS APPROVED FOR DISTURBANCE.
6. PLANTING AREAS AND GENERAL PLANT LAYOUT SHOULD BE CONFIRMED BY CONTRACTOR WITH CITY BIOLOGIST PRIOR TO PLANT INSTALLATION.
7. SUBSEQUENT TO PLANT DELIVERY, BUT PRIOR TO PLANT INSTALLATION, THE CITY WILL INSPECT THE PLANTS TO ENSURE PLANT QUANTITIES, SIZES, AND HEALTH ARE ADEQUATE AND PER THE PLANTING PLAN. UNLESS THE CITY SPECIFICALLY AUTHORIZES ANY CHANGES OR SUBSTITUTIONS, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL PLANT TYPES AND NUMBERS PER THE PLANTING PLAN.
8. PLANT SIMILAR SPECIES TOGETHER IN CLUSTERS OF 3, 5, 7, OR 9. DO NOT PLANT ALL OF ONE SPECIES IN ANY PLANTING AREAS.
9. IMMEDIATELY AFTER PLANT INSTALLATION, ALL INDIVIDUAL TREES WILL BE MARKED WITH BRIGHTLY COLORED FLAGGING, TO ALLOW FOR EASY IDENTIFICATION DURING AS-BUILT INSPECTION AND SUBSEQUENT MONITORING EFFORTS.
10. IMMEDIATELY FOLLOWING PLANT INSTALLATION THE CITY WILL CONDUCT AN AS BUILT SURVEY TO ENSURE ALL TREE PLANTING WAS INSTALLED ACCORDING TO THE PLANTING PLAN. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING PLANT TYPES AND NUMBERS PER THE PLANTING PLAN.

LEGEND

TREE MITIGATION PLANTING AREA (34,801 SF)

TREE MITIGATION PLANTING & INVASIVE VEGETATION REMOVAL (7,155 SF)

N

TREE MITIGATION PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QUANTITY
ACER MACROPHYLLUM	BIG LEAF MAPLE	1 GAL. CONTAINER	10' O.C.	50
ACER MACROPHYLLUM	BIG LEAF MAPLE	2 GAL. CONTAINER	12' O.C.	50
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	1 GAL. CONTAINER	10' O.C.	200
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	2 GAL. CONTAINER	12' O.C.	110

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NO.	REVISION	DATE	BY

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STATE OF WASHINGTON · ALISONA B. GREENBERG · NO. 1047 EXP. 2/28/2021 · LANDSCAPE ARCHITECT

DESIGNED ABG
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CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Environmental Science Associates
SEATTLE, WASHINGTON

TREE MITIGATION PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME
JOB NO. 1397005*00
DATE JUNE 2020
SHEET L5 OF

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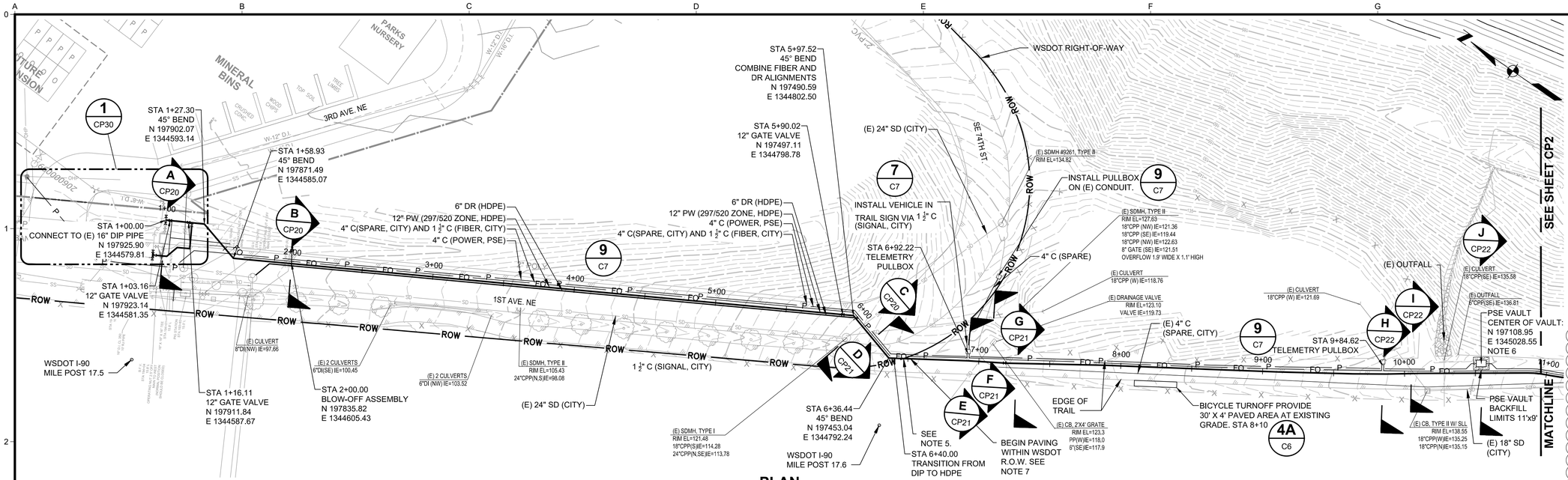

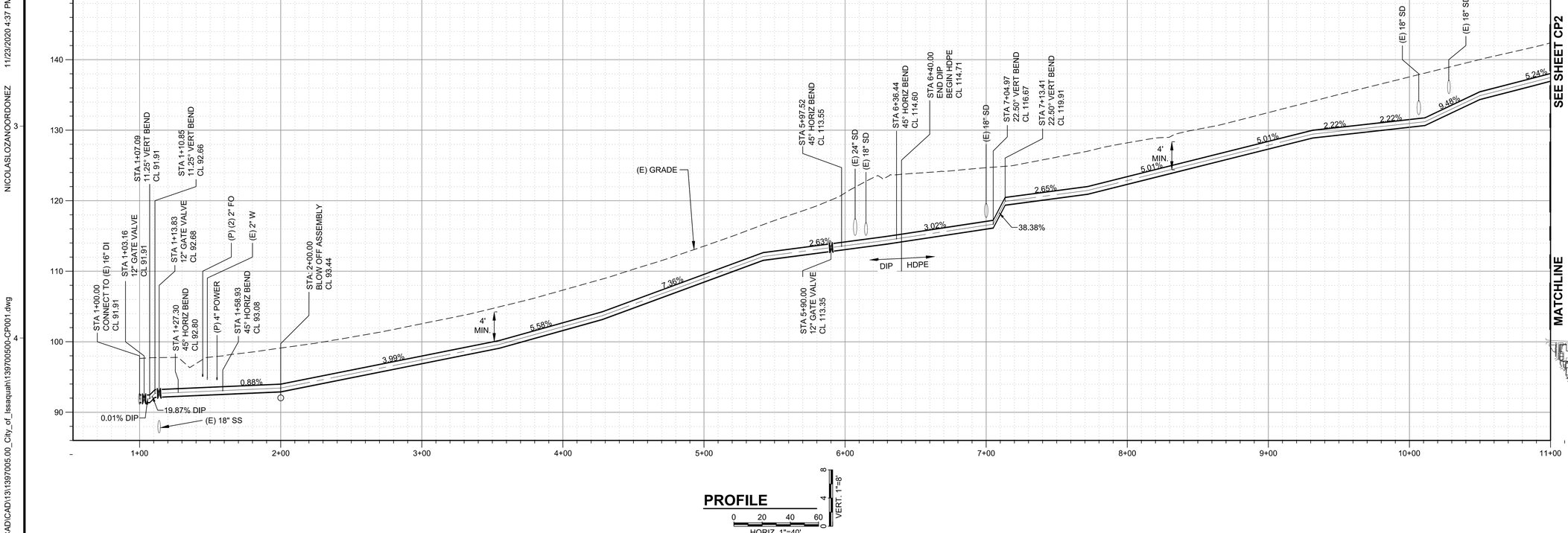

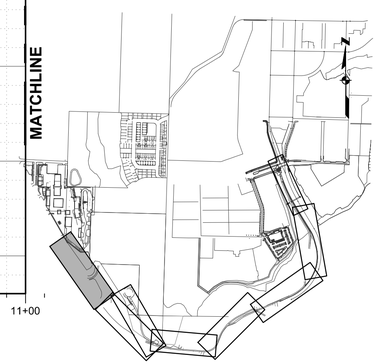

NOTES:

1. BLOW OFF ASSEMBLIES PER CITY STANDARD DETAIL W-04
2. COORDINATES SHOWN ON DRAWINGS ARE FOR THE 12" 297/520 ZONE WATERLINE.
3. CONTRACTOR TO COORDINATE WITH FIBER OPTIC CABLE SUPPLIER AND CONTROL SYSTEM INTEGRATOR FOR FIBER OPTIC CONDUIT DIAMETER, BEND RADIUS, AND PLACEMENT OF HANDHOLES TO ASSURE THAT INSTALLATION AND OPERATING SPECIFICATIONS OF THE CABLE ARE NOT EXCEEDED.
4. PROVIDE ELECTRICAL CONDUITS ALONG PIPELINE ROUTE. SEE PIPELINE DETAILS AND ELECTRICAL DRAWINGS.
5. PROJECT ENTERS WSDOT ROW AT I-90 MILE POST 17.61.
6. 7'x4'-8"x4' O.D. VAULT. SEE PSE DRAWINGS FOR VAULT INSTALLATION REQUIREMENTS AND DETAILS. PSE UTILITY FRANCHISE UF11217CAM09.
7. BEGIN WSDOT R.O.W. FINAL PAVING OVERLAY SHALL COVER ENTIRE LENGTH AND WIDTH OF TRAIL WITHIN WSDOT R.O.W. PAVE OUTSIDE THE WSDOT R.O.W. AS SHOWN. SEE PAVING DETAILS FOR ADDITIONAL INFORMATION.
8. PROVIDE 10AWG GREEN JACKETED TRACER WIRE FOLLOWING 6-INCH DR (HDPE) LINE. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED SEWER) PLACED AT THE START OF THE DRAIN LINE WITH NO MORE THAN 500 FEET IN BETWEEN THE BOXES. THE TRACER WIRE SHALL BE ACCESSIBLE IN THE MANHOLE CONNECTION.
9. PROVIDE 10AWG ORANGE JACKETED TRACER WIRE IN SAME CONDUIT AS THE FIBER OPTIC CABLE. PROVIDE PULL ROPE IN 4 INCH SPARE CITY CONDUIT.
10. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.

NO.	REVISION	DATE	BY

SCALES

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IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

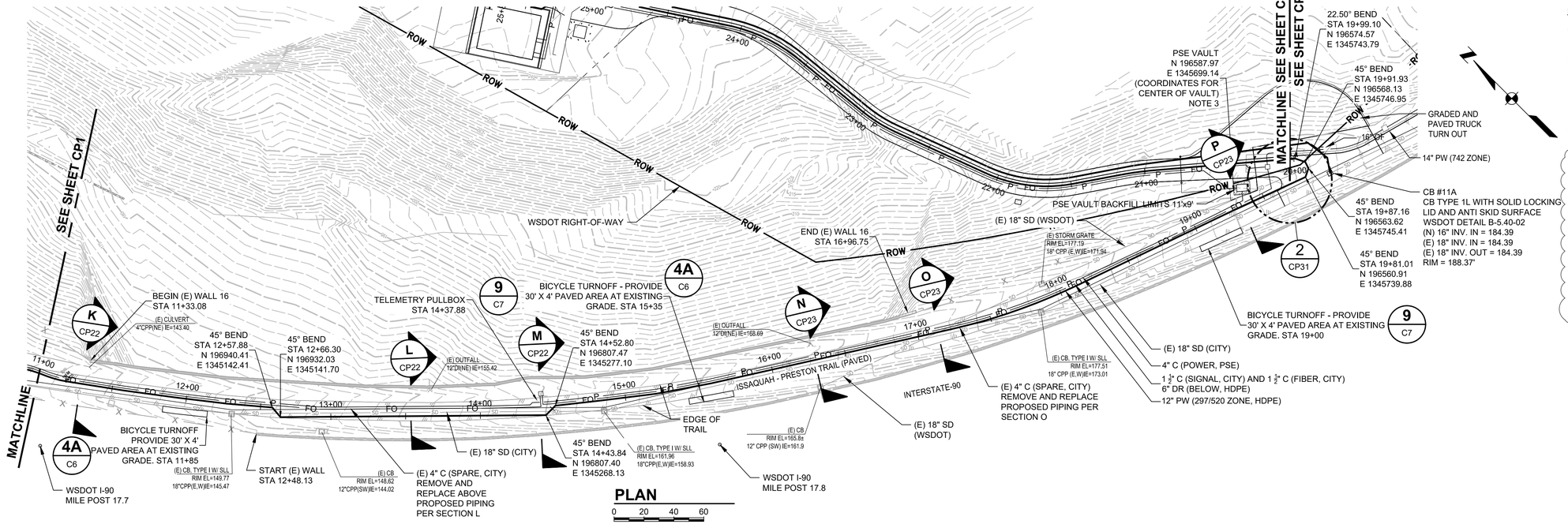
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

297/520 ZONE PIPELINE
PLAN AND PROFILE
STA. 1+00 TO STA. 11+00

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-CP001.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP1 OF



PLAN

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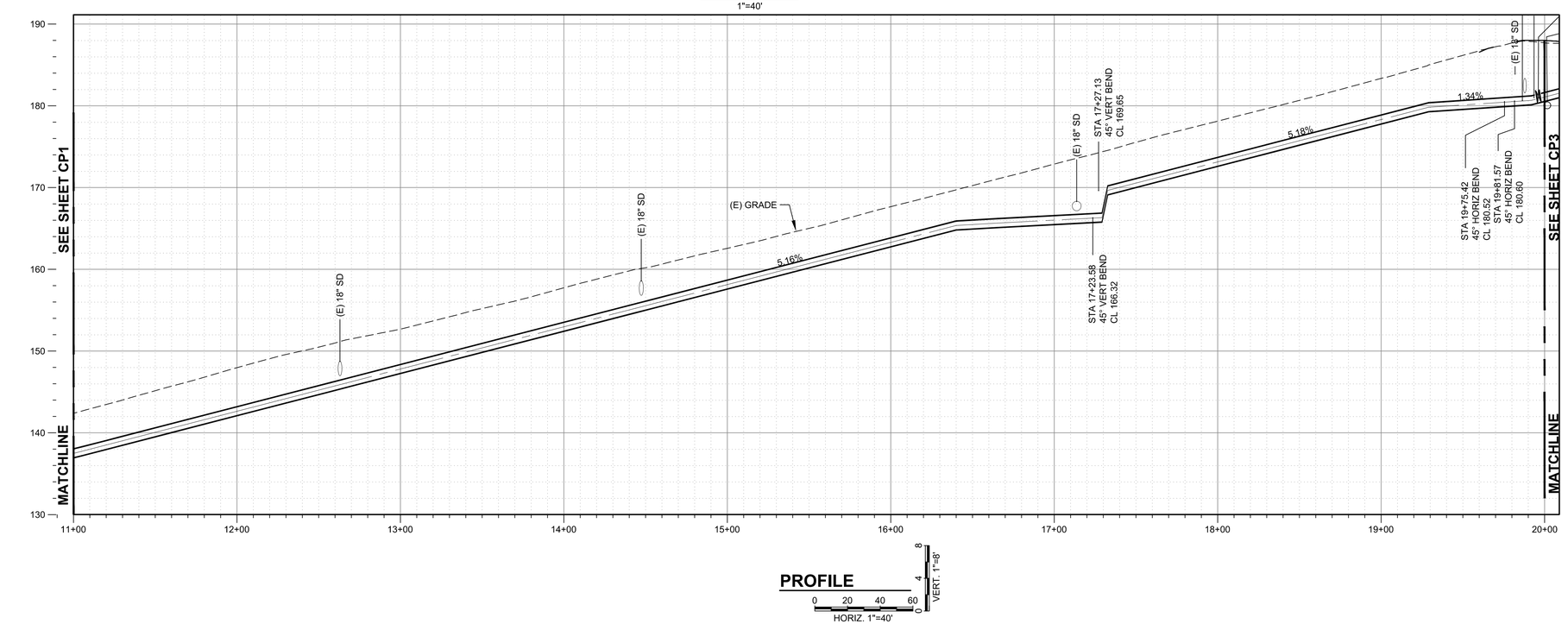
1"=40'



PROFILE

0 20 40 60

HORIZ. 1"=40'

0 4 8

VERT. 1"=8'

KEY PLAN

SCALE NONE

NOTES:

1. STA 20+00.00 297/520 ZONE PIPELINES = STA 50+00.00 742 ZONE PIPELINE.
2. PROVIDE ELECTRICAL CONDUITS ALONG PIPELINE ROUTE. SEE PIPELINE DETAILS AND ELECTRICAL DRAWINGS.
3. 7'x4'-8"x4' O.D. VAULT. SEE PSE DRAWINGS FOR VAULT INSTALLATION REQUIREMENTS AND DETAILS. PSE UTILITY FRANCHISE UF11217CAM09.
4. PROVIDE 2'x6' SURCHARGE AT WALL WHILE TRENCH IS OPEN. SEE GEOTECHNICAL REPORT.
5. PROVIDE 10AWG GREEN JACKETED TRACER WIRE FOLLOWING 6-INCH DR (HDPE) LINE. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED SEWER) PLACED AT THE START OF THE DRAIN LINE WITH NO MORE THAN 500 FEET IN BETWEEN THE BOXES. THE TRACER WIRE SHALL BE ACCESSIBLE IN THE MANHOLE CONNECTION.
6. PROVIDE 10AWG ORANGE JACKETED TRACER WIRE IN SAME CONDUIT AS THE FIBER OPTIC CABLE. PROVIDE PULL ROPE IN 4 INCH SPARE CITY CONDUIT.
7. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

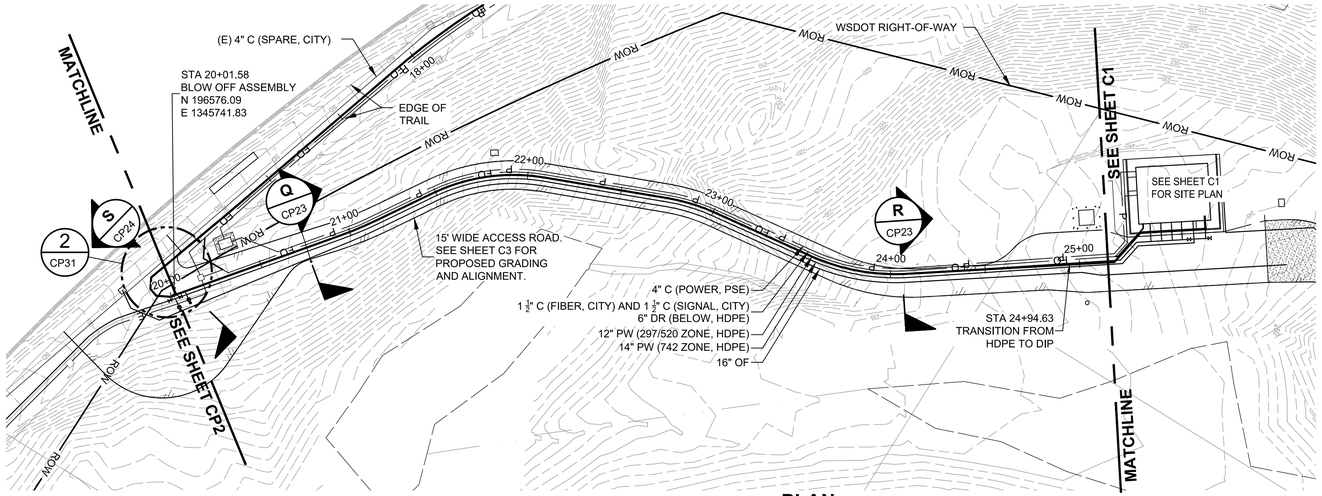
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

297/520 ZONE PIPELINE
PLAN AND PROFILE
STA. 11+00 TO STA. 19+88.60

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-CP002.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP2
OF	

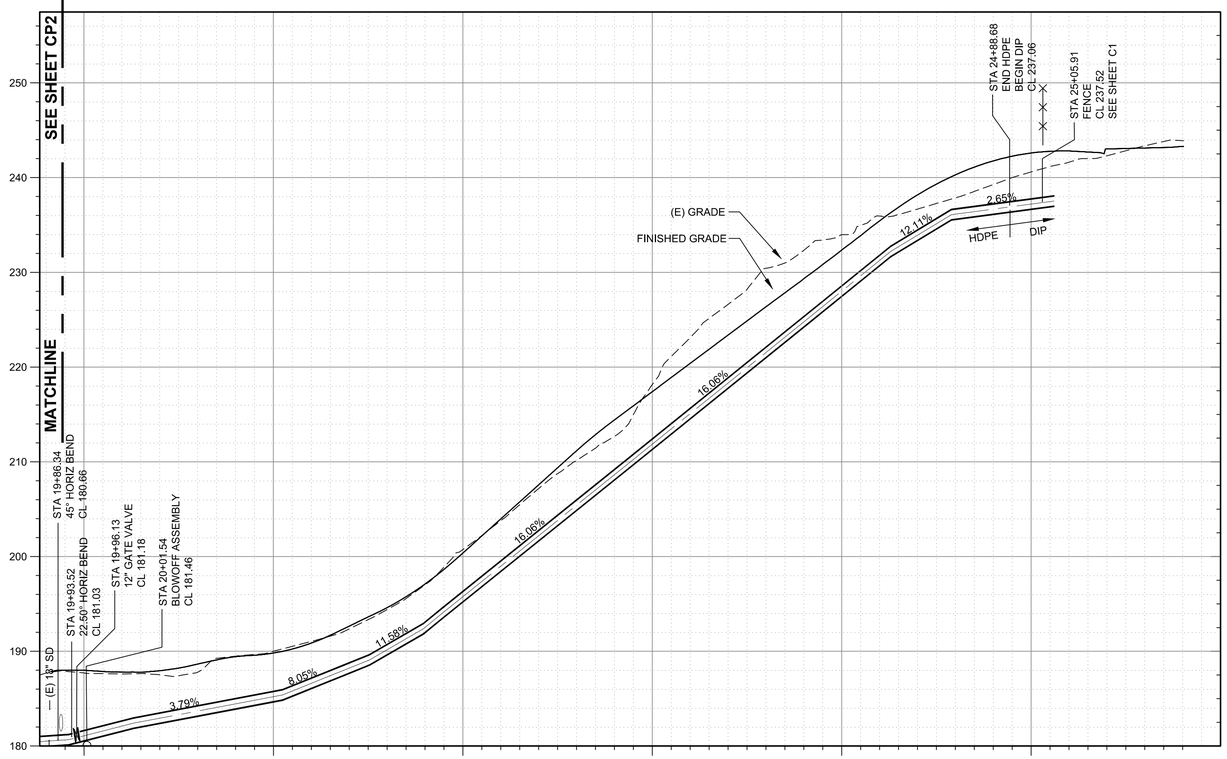
\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\13\1397005.00_City_of_Issaquah\139700500-CP002.dwg 11/23/2020 4:37 PM NICOLASLOZANOORDONEZ



PLAN

0 20 40 60

1"=40'



PROFILE

0 20 40 60

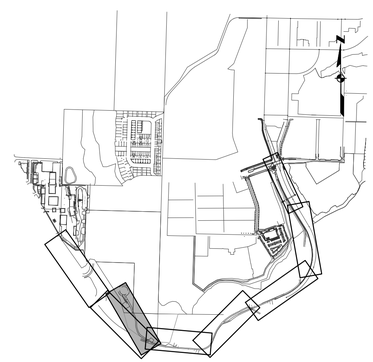
HORIZ. 1"=40'

0 4 8

VERT. 1"=8'

NOTES:

1. BLOW OFF ASSEMBLIES PER CITY STANDARD DETAIL W-04.
2. COORDINATES SHOWN ON DRAWINGS ARE FOR THE 12" 297/520 ZONE WATERLINE.
3. PROVIDE ELECTRICAL CONDUITS ALONG PIPELINE ROUTE. SEE PIPELINE DETAILS AND ELECTRICAL DRAWINGS.
4. SEE SHEETS C4 AND C5 FOR ACCESS ROAD ALIGNMENT AND PROFILE INFORMATION.
5. PROVIDE 10AWG GREEN JACKETED TRACER WIRE FOLLOWING 6-INCH DR (HDPE) LINE. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED SEWER) PLACED AT THE START OF THE DRAIN LINE WITH NO MORE THAN 500 FEET IN BETWEEN THE BOXES. THE TRACER WIRE SHALL BE ACCESSIBLE IN THE MANHOLE CONNECTION.
6. PROVIDE 10AWG ORANGE JACKETED TRACER WIRE IN SAME CONDUIT AS THE FIBER OPTIC CABLE. PROVIDE PULL ROPE IN 4 INCH SPARE CITY CONDUIT.
7. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.



KEY PLAN

SCALE NONE

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

297/520 ZONE AND 742 ZONE PIPELINES
PLAN AND PROFILE
STA. 19+88.60 TO STA. 25+34.25

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP003.DWG

JOB NO. 1397005*00

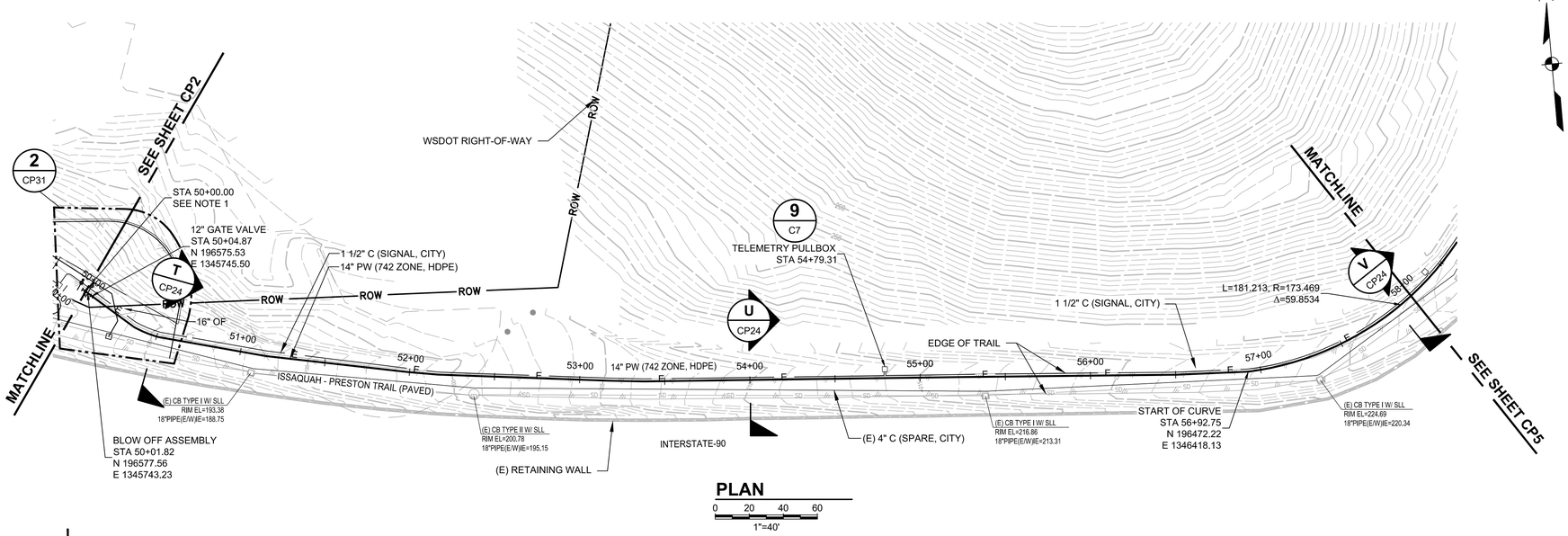
DATE NOVEMBER 2020

SHEET CP3 OF

\\kjc-local\KJC-Root\KJ-Office\FWY\CAD\CAD\131\1397005.00_City_of_Issaquah\139700500-CP003.dwg 11/23/2020 4:38 PM NICOLASLOZANOORDONEZ

NOTES:

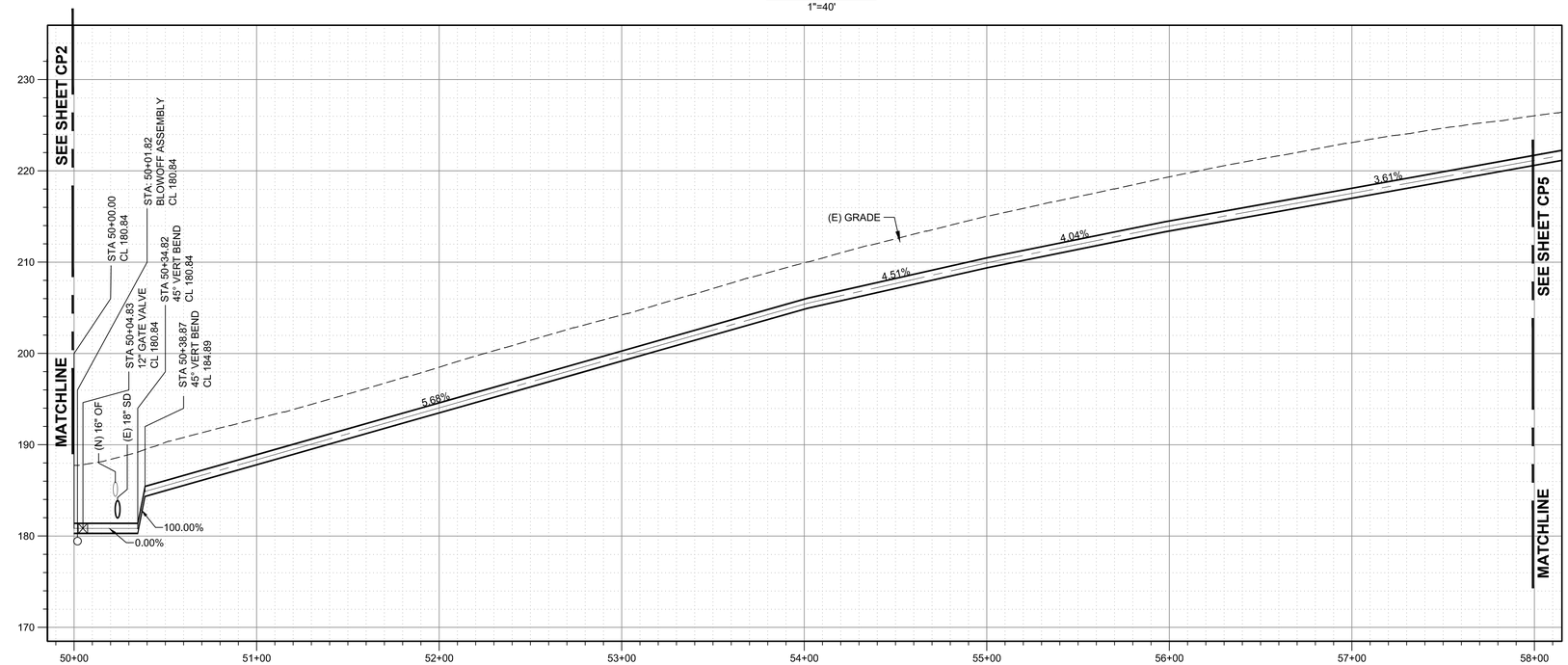
1. STA 50+00.00 742 ZONE PIPELINE = STA 20+00.00 297/520 ZONE PIPELINE.
2. BLOW OFF ASSEMBLIES PER CITY STANDARD DETAIL W-04.
3. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.



PLAN

0 20 40 60

1"=40'



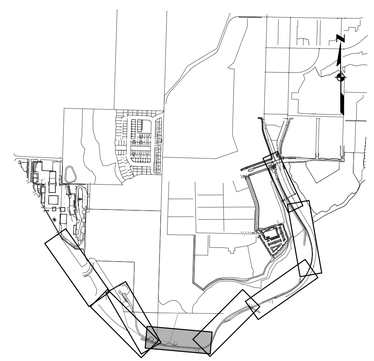
PROFILE

0 20 40 60

HORIZ. 1"=40'

0 4 8

VERT. 1"=8'



KEY PLAN

SCALE NONE

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

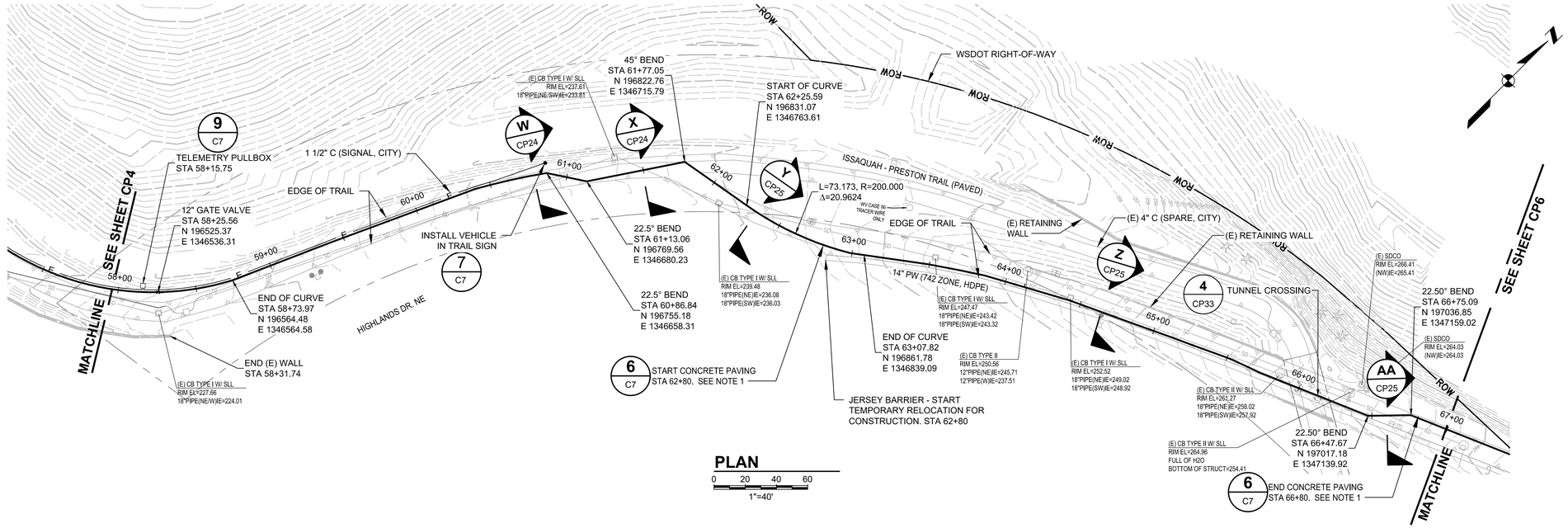
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

742 ZONE PIPELINE
PLAN AND PROFILE
STA. 50+00 TO STA. 58+00

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-CP004.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP4 OF

11/23/2020 4:39 PM NICOLASLOZANOORDONEZ \\kjc-local\KJC-Root\KJ-Office\FWY\CAD\CAD\131\3397005.00_City_of_Issaquah\139700500-CP004.dwg



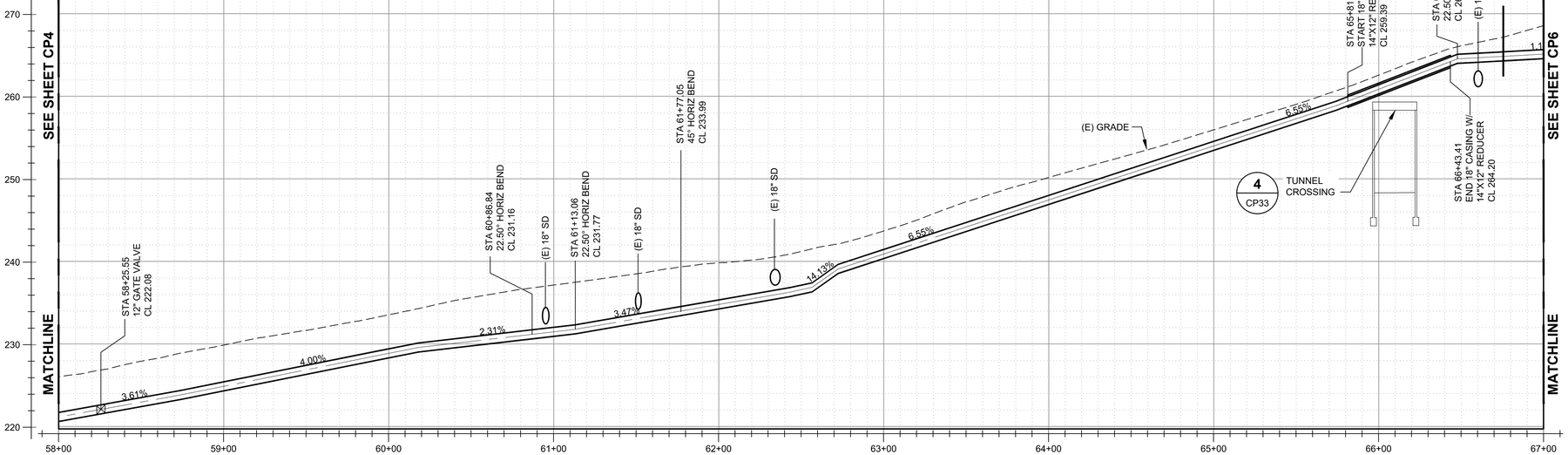
PLAN

0 20 40 60

1"=40'

NOTES:

1. CONCRETE PAVING TO BE PROVIDED WHERE PIPE HAS LESS THAN 3 FEET OF COVER.
2. FOR CONSTRUCTION AND INSTALLATION OF THE NEW 12" PIPE, TEMPORARILY REMOVE THE (E) FENCE AND REMOVE AND RESET THE (E) CONCRETE JERSEY BARRIER. SEE TRAFFIC CONTROL PLANS FOR WORK ASSOCIATED WITH REMOVE AND RESETTING (E) PERMANENT BARRIER. THE DURATION OF THE JERSEY BARRIER TEMPORARY RELOCATION SHALL NOT EXCEED TWO WEEKS. BOTH THE (E) FENCE AND (E) JERSEY BARRIER SHALL BE RESTORED TO THE ORIGINAL CONDITIONS ONCE THE NEW PIPE IS INSTALLED AND THE FINAL PAVEMENT LAYER IS SET ON THE TRAIL.
3. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.



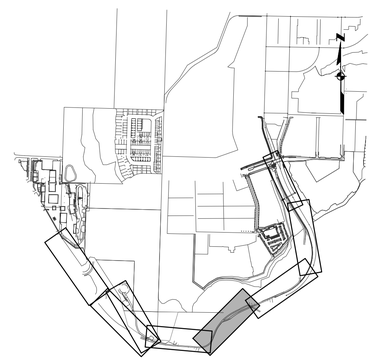
PROFILE

0 20 40 60

HORIZ. 1"=40'

0 4 8

VERT. 1"=8'



KEY PLAN

SCALE NONE

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

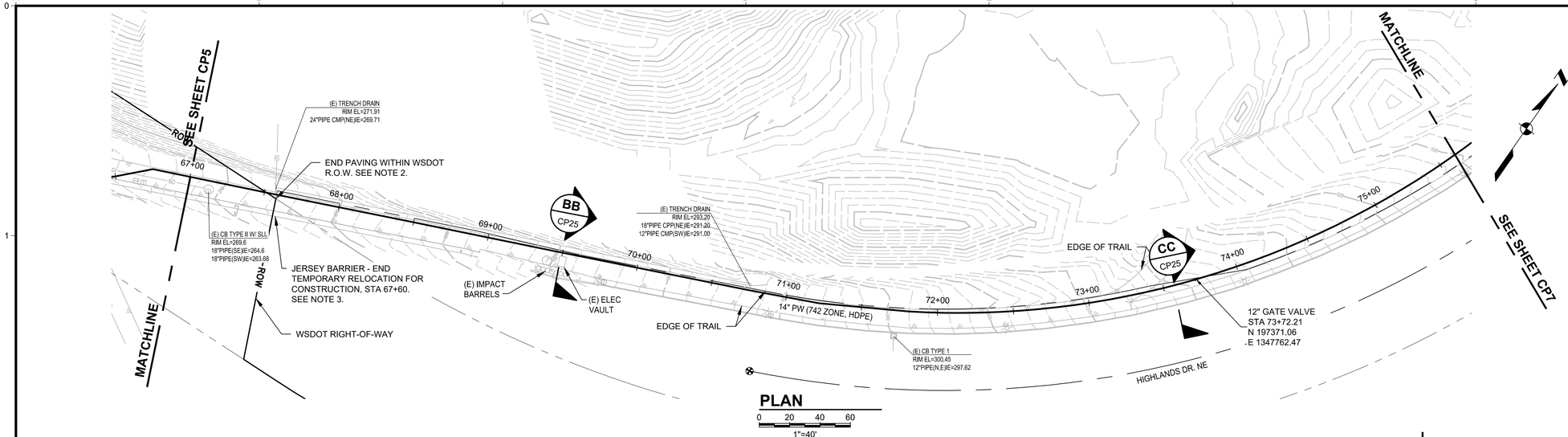
FEDERAL WAY, WASHINGTON

742 ZONE PIPELINE
PLAN AND PROFILE
STA. 58+00 TO STA. 67+00

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-CP005.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP5 OF

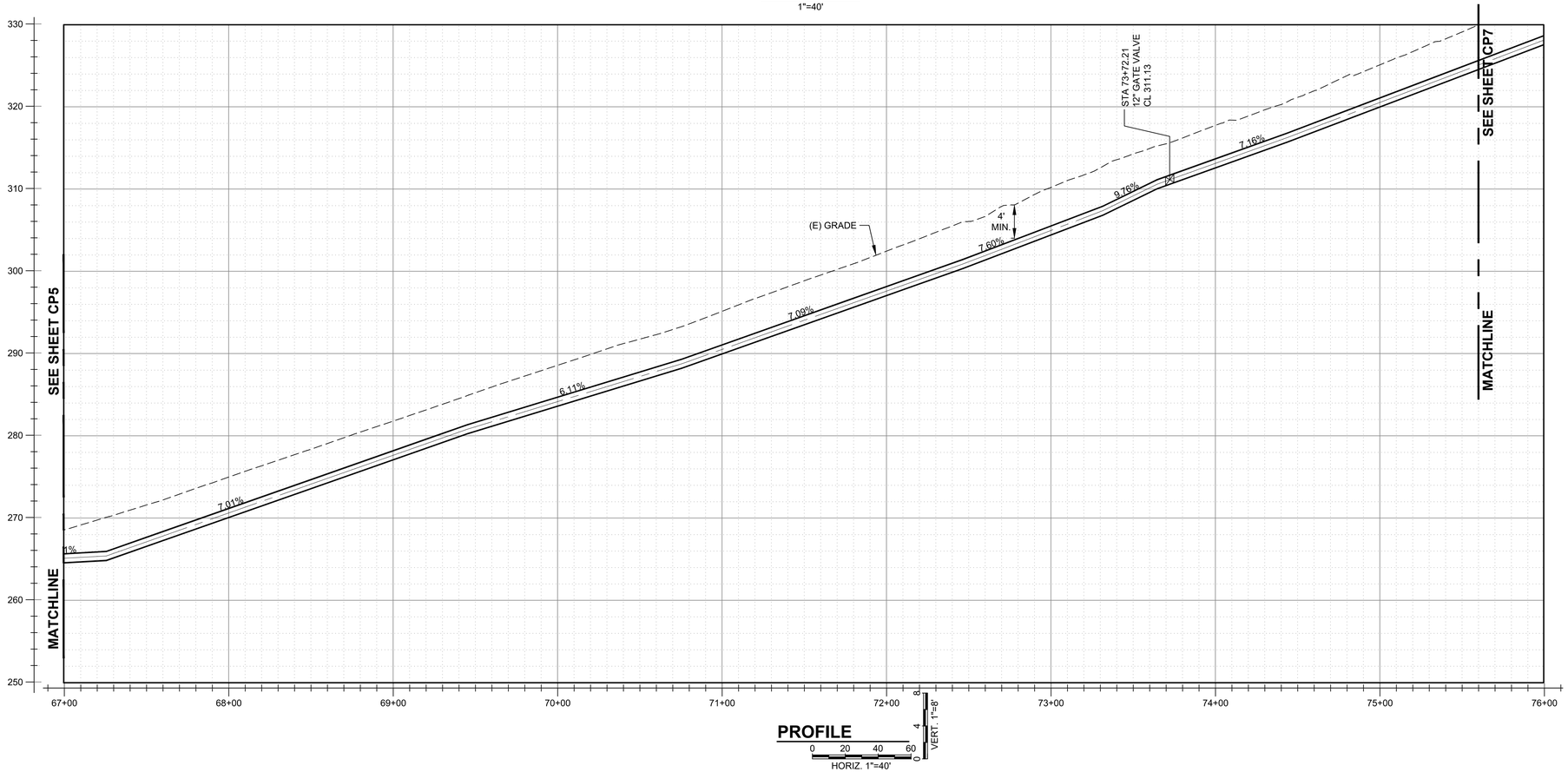
\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\13\1397005.00_City_of_Issaquah\139700500-CP005.dwg 11/23/2020 4:39 PM NICOLASLOZANOORDONEZ



PLAN

0 20 40 60

1"=40'



PROFILE

0 20 40 60

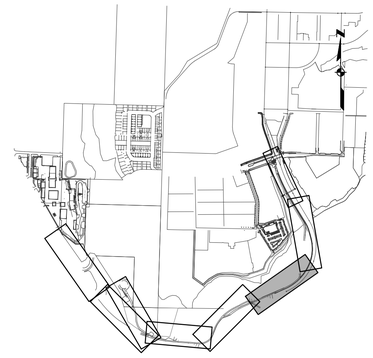
HORIZ. 1"=40'

0 4 8

VERT. 1"=8'

NOTES:

1. PROJECT EXITS WSDOT ROW AT I-90 MILE POST 18.2.
2. END WSDOT R.O.W. FINAL PAVING OVERLAY SHALL COVER ENTIRE LENGTH AND WIDTH OF TRAIL WITHIN WSDOT R.O.W. PAVE OUTSIDE THE R.O.W. AS SHOWN. SEE PAVING DETAILS FOR ADDITIONAL INFORMATION.
3. MODIFY JERSEY BARRIER TEMPORARILY WITH FLARED APPROACH FOR TRAFFIC CONTROL PLAN.
4. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.



KEY PLAN

SCALE NONE

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

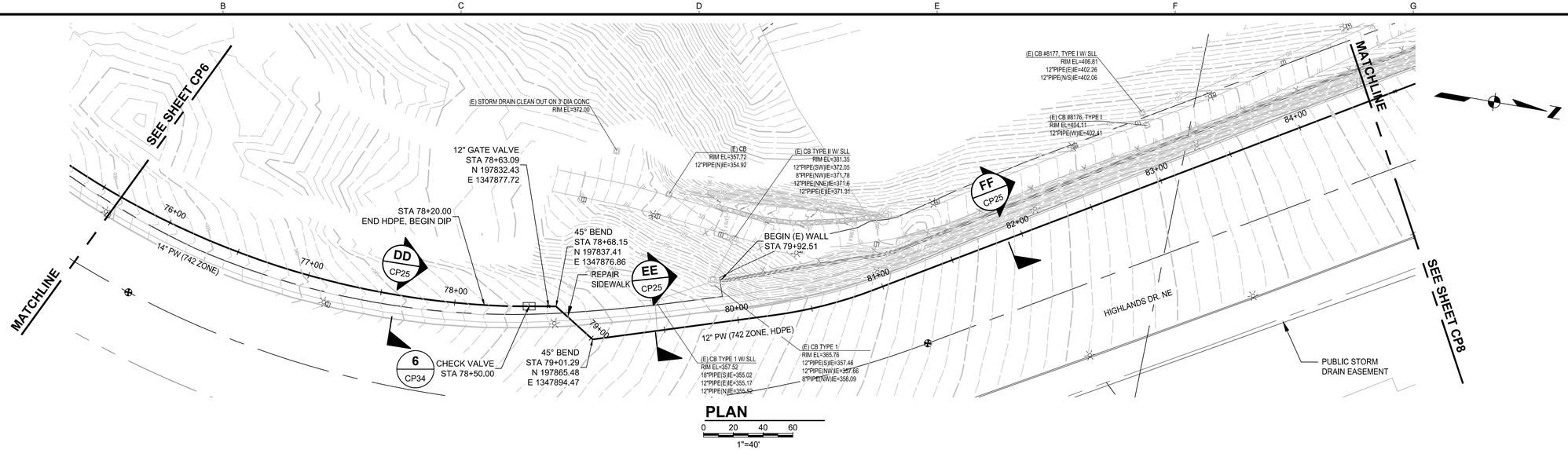
Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

742 ZONE PIPELINE
PLAN AND PROFILE
STA. 67+00 TO STA. 76+00

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-CP006.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP6
OF	



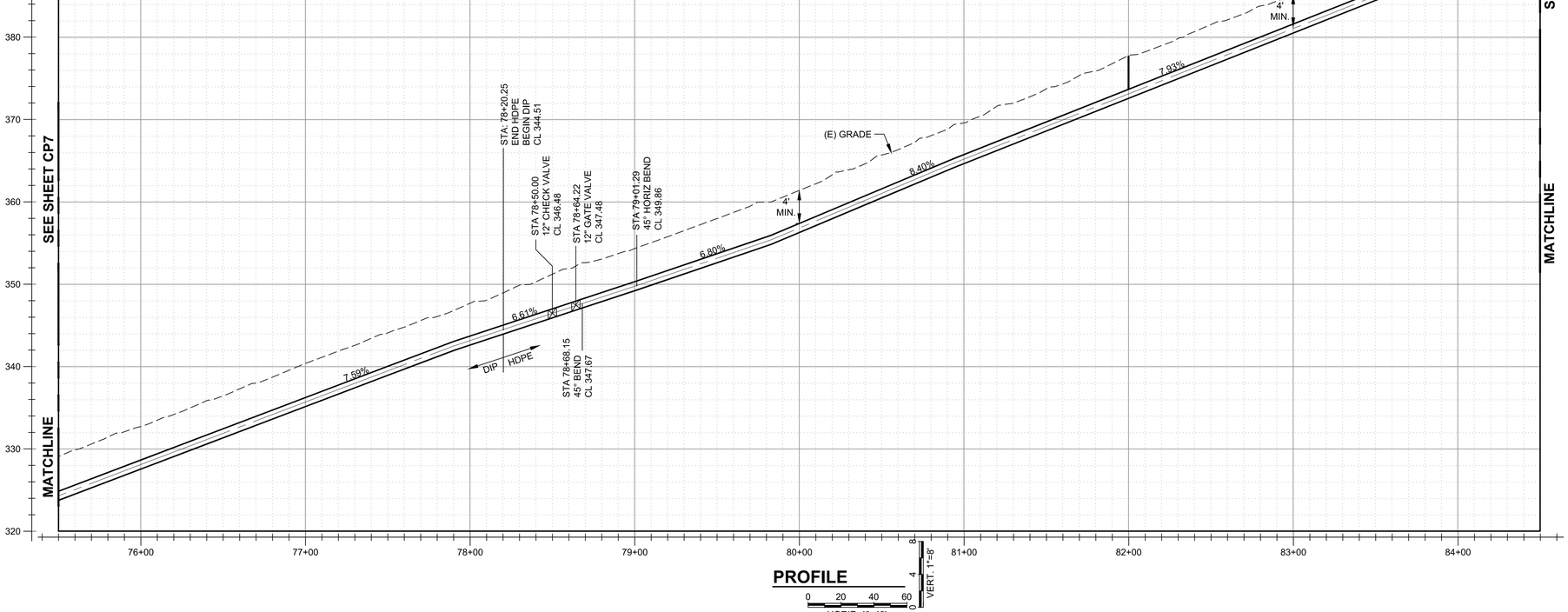
PLAN

0 20 40 60

1"=40'

NOTES:

1. PROVIDE 10AWG BLUE JACKETED TRACER WIRE FOLLOWING THE PATH OF THE HDPE WATER MAIN. TRACER WIRE SHALL BE ACCESSED BY VALVE BOXES (LABELED WATER) PLACED AT THE START AND END OF THE HDPE SECTION WITH NO MORE THAT 500 FEET IN BETWEEN THE BOXES.



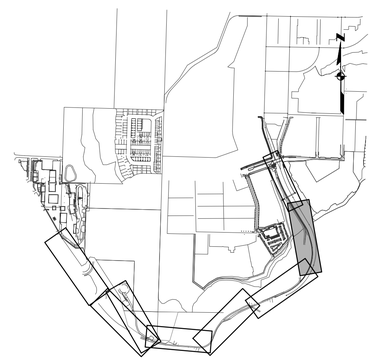
PROFILE

0 20 40 60

HORIZ. 1"=40'

0 4 8

VERT. 1"=8'



KEY PLAN

SCALE NONE

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY, STATE OF WASHINGTON, 24536, REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

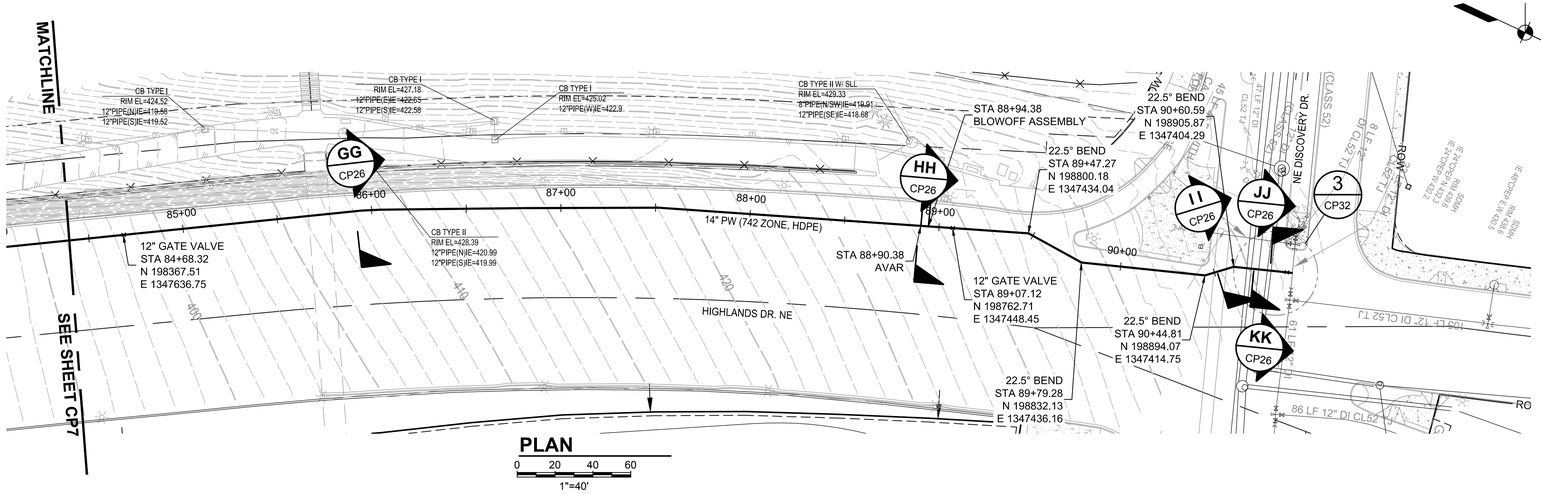
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

742 ZONE PIPELINE PLAN AND PROFILE STA. 75+50 TO STA. 84+50

90% SUBMITTAL (REVISED 11/30/2020)

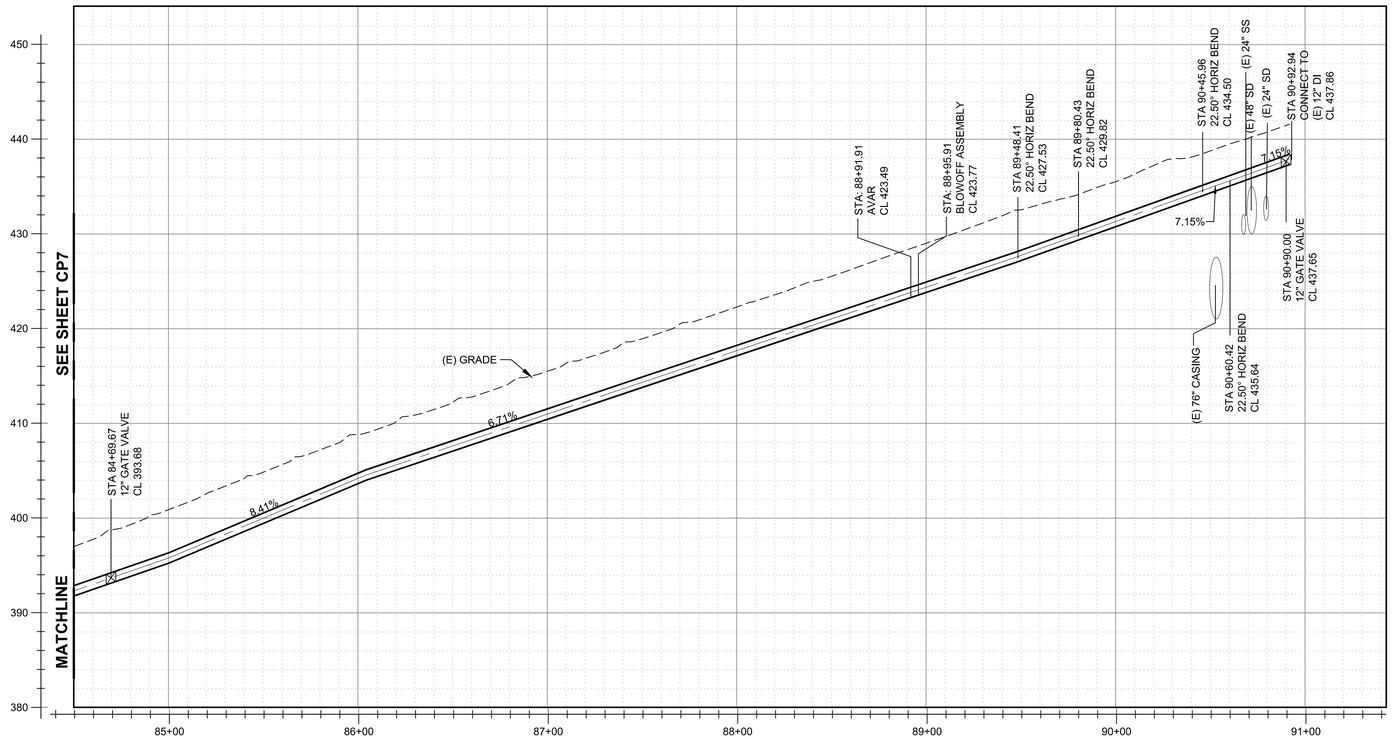
FILE NAME	139700500-CP007.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	CP7 OF



PLAN

0 20 40 60

1"=40'



PROFILE

0 20 40 60

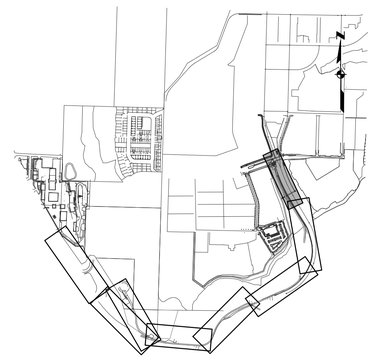
HORIZ. 1"=40'

8 4 0

VERT. 1"=8'

NOTES:

1. CONTRACTOR SHALL REPLACE TRAFFIC LOOPS AT INTERSECTION.
2. BLOWOFF ASSEMBLY PER CITY STANDARD DETAIL W-04. AVAR PER CITY STANDARD DETAIL W-07.



KEY PLAN

SCALE NONE

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

742 ZONE PIPELINE
PLAN AND PROFILE
STA. 85+00 TO STA. 91+00

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-CP008.DWG

JOB NO. 1397005*00

DATE JUNE 2020

SHEET 45 OF 83

CP8

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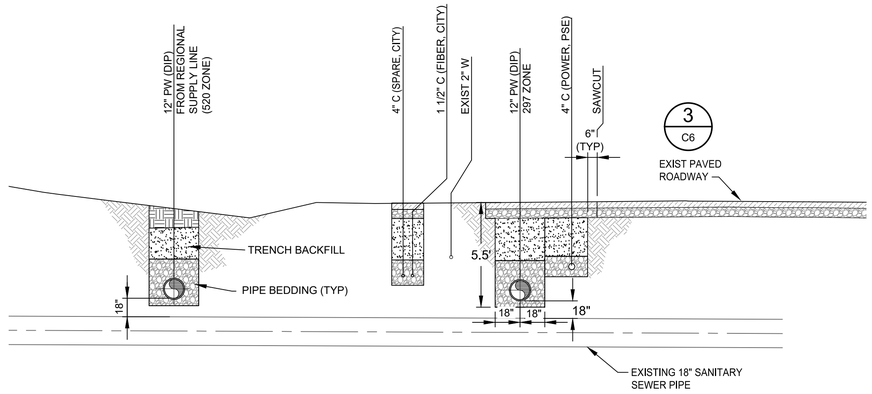
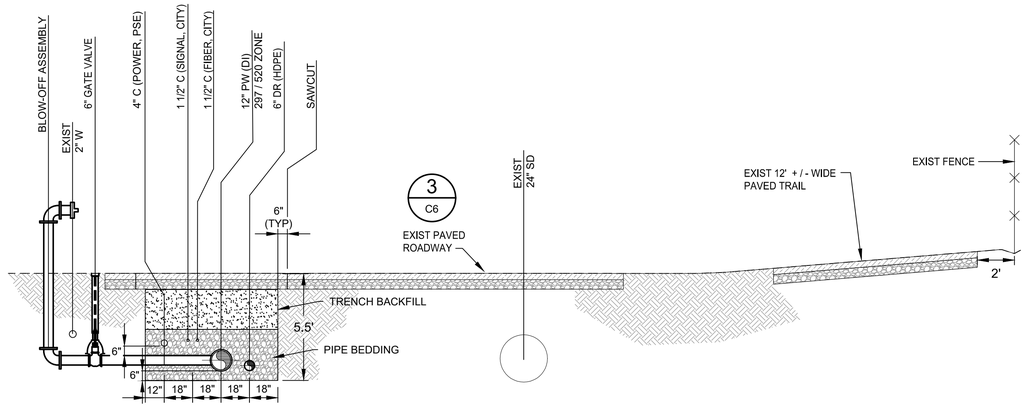


STA 1+00 TO 2+00 297/520 ZONE SECTION — A / CP1

0 2 4 6
1"=4'

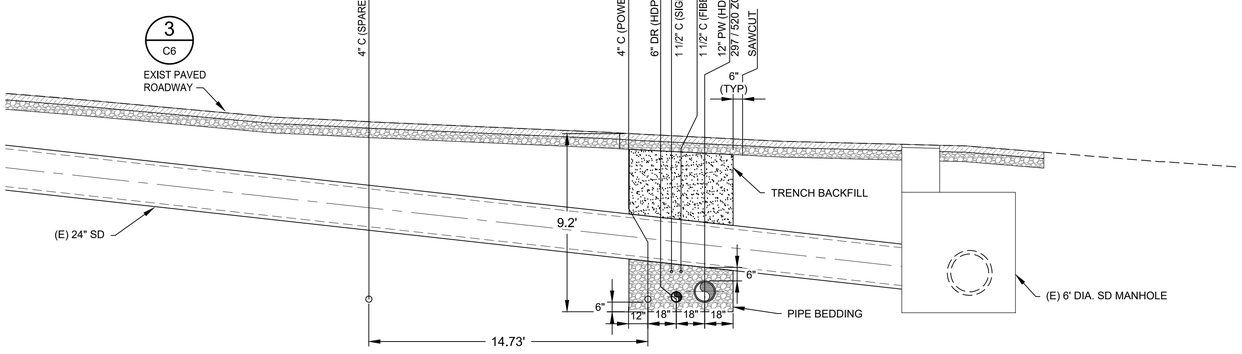


STA 2+00 TO 5+38 297/520 ZONE SECTION — B / CP1

0 2 4 6
1"=4'

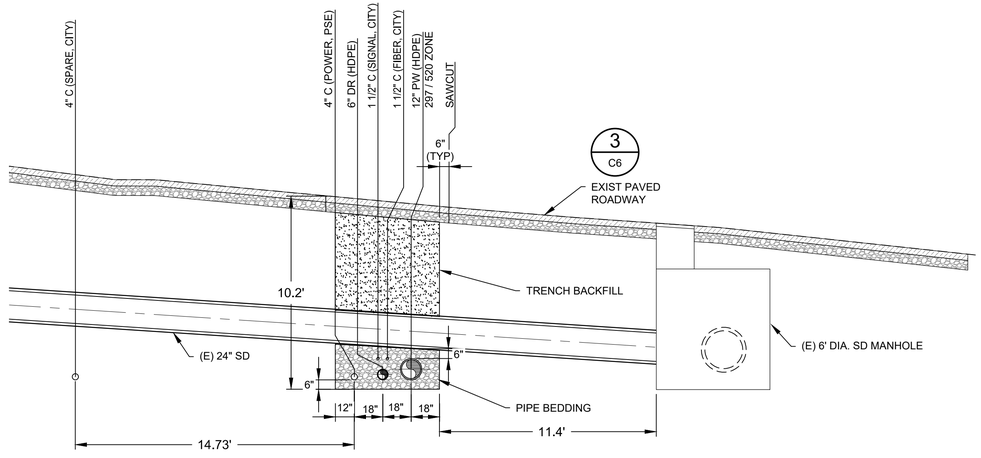
NOTES:

1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'.



STA 6+05 TO 6+20 297/520 ZONE SECTION — C / CP1

0 2 4 6
1"=4'



STA 6+20 TO 6+90 297/520 ZONE SECTION — D / CP1

0 2 4 6
1"=4'

NICOLASLOZANOORDONEZ 12/10/2020 7:31 AM

\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\13\1397005.00_City_of_Issaquah\1397005000-CP020.dwg

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

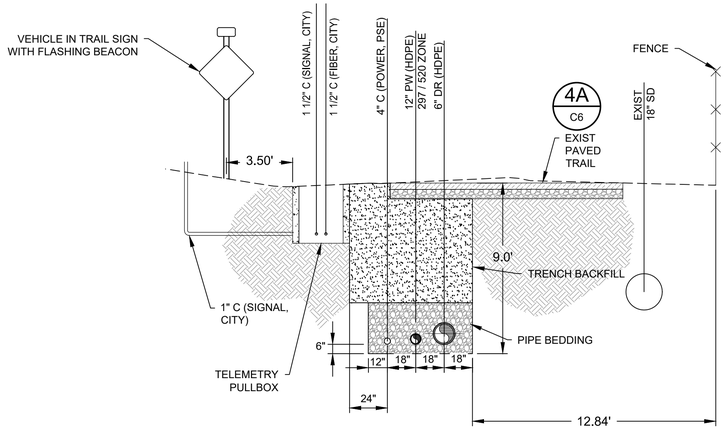
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 1

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP020.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP20 OF

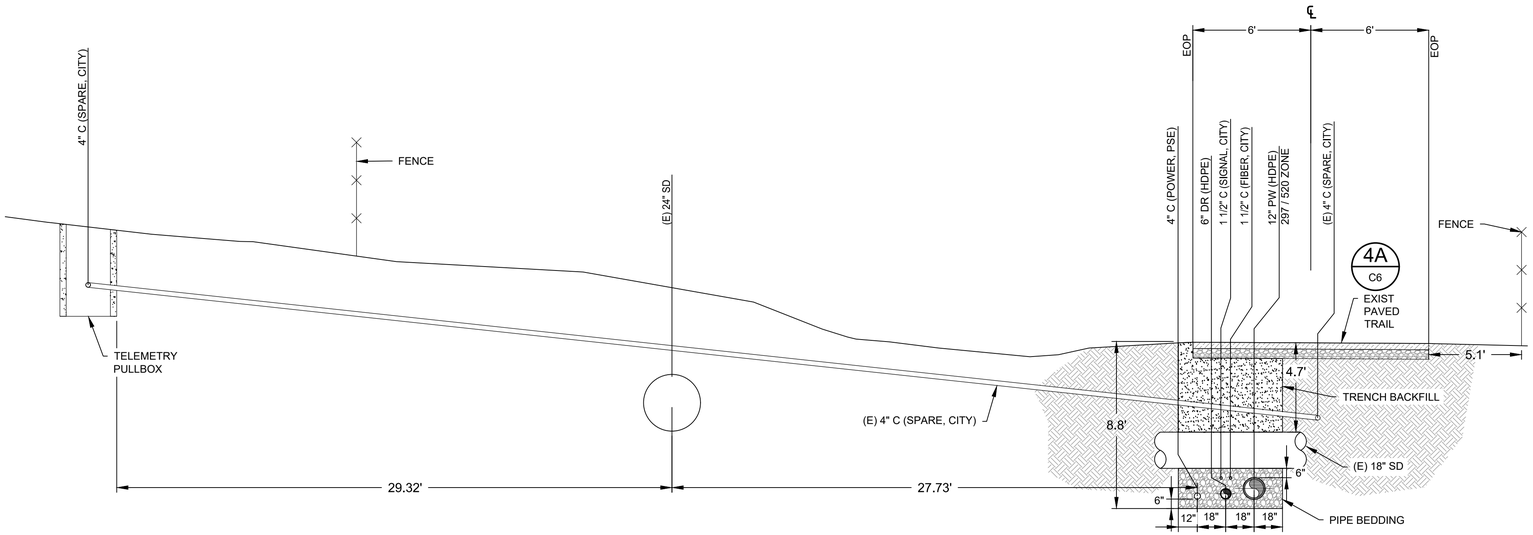


STA 6+95 TO 7+00 297/520 ZONE SECTION (E / CP1)

0 2 4 6
1"=4'

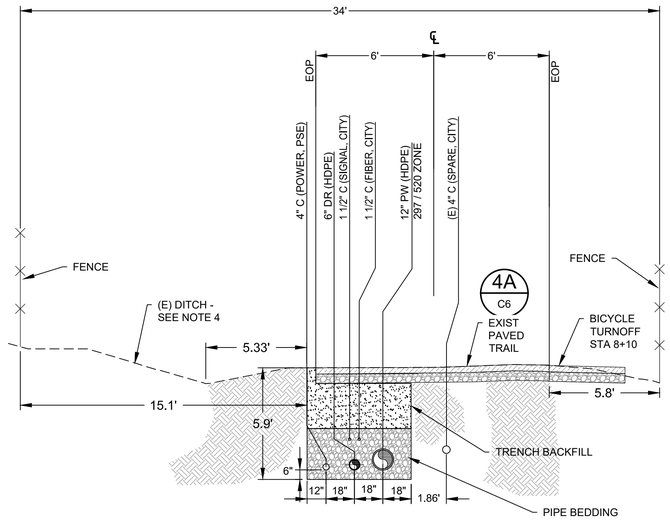
NOTES:

1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'
4. PRESERVE FEATURES OF EXISTING DITCH, RESTORE TO ORIGINAL CONDITION AFTER CONSTRUCTION.



STA 7+00 TO 7+23 297/520 ZONE SECTION (F / CP1)

0 2 4 6
1"=4'



STA 7+23 TO 9+85 297/520 ZONE SECTION (G / CP1)

0 2 4 6
1"=4'

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES

0 1"
0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

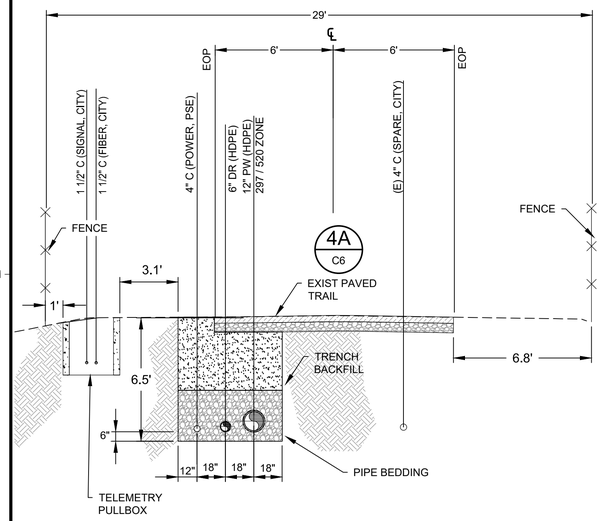
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 2

90% SUBMITTAL (REVISED 11/30/2020)

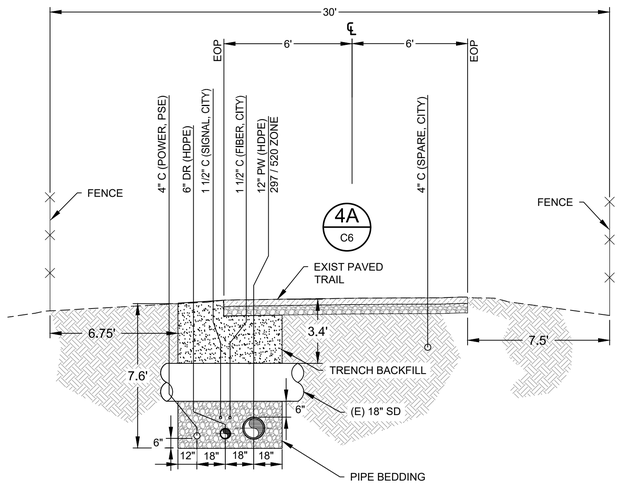
FILE NAME 139700500-CP021.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP21 OF

\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\131\1397005.00_City_of_Issaquah\139700500-CP021.dwg 12/10/2020 7:33 AM NICOLASLOZANOORDONEZ



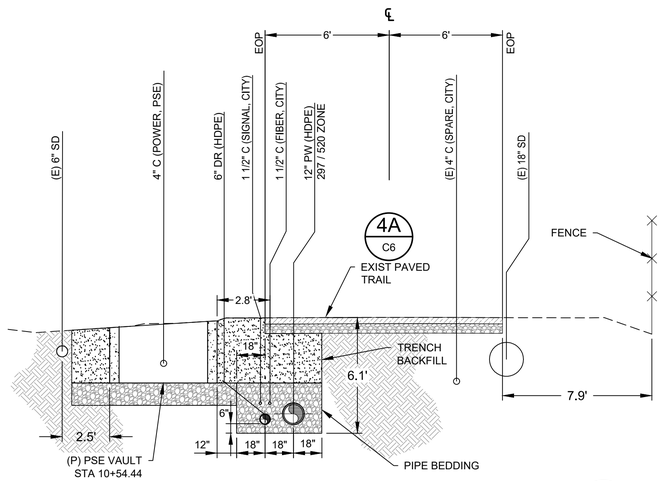
STA 9+85 TO 10+05 297/520 ZONE SECTION (H, CP1)

0 2 4 6
1"=4'



STA 10+08 TO 10+55 297/520 ZONE SECTION (I, CP1)

0 2 4 6
1"=4'

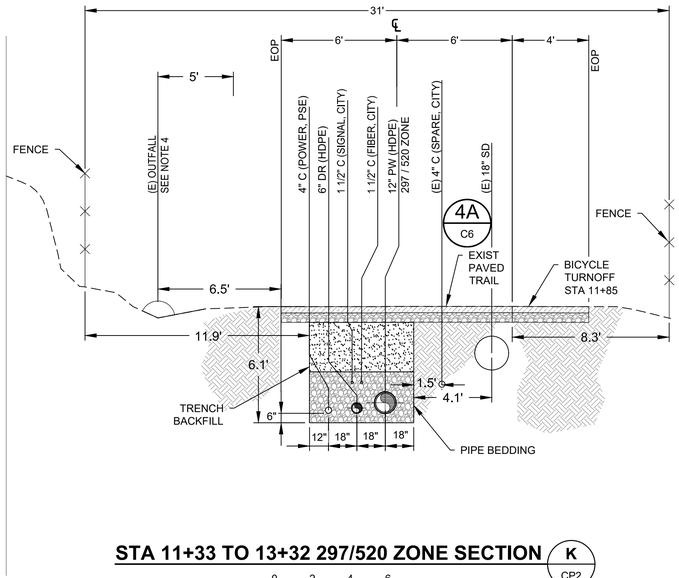


STA 10+55 TO11+33 297/520 ZONE SECTION (J, CP1)

0 2 4 6
1"=4'

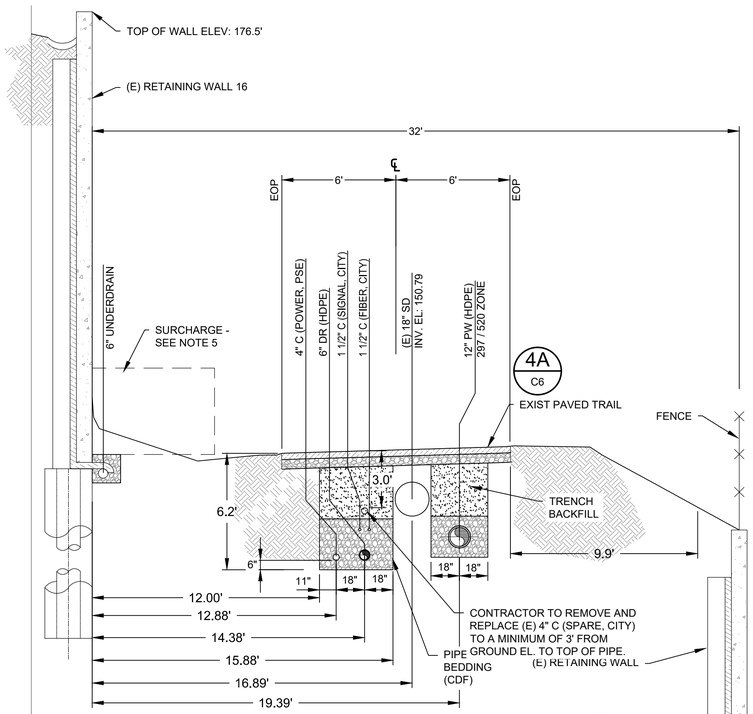
NOTES:

1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'
4. PRESERVE FEATURES OF OUTFALL, RESTORE TO ORIGINAL CONDITION AFTER CONSTRUCTION.
5. PROVIDE 4FT X 8FT SURCHARGE AT WALL WHILE TRENCH IS OPEN. SEE GEOTECHNICAL REPORT.



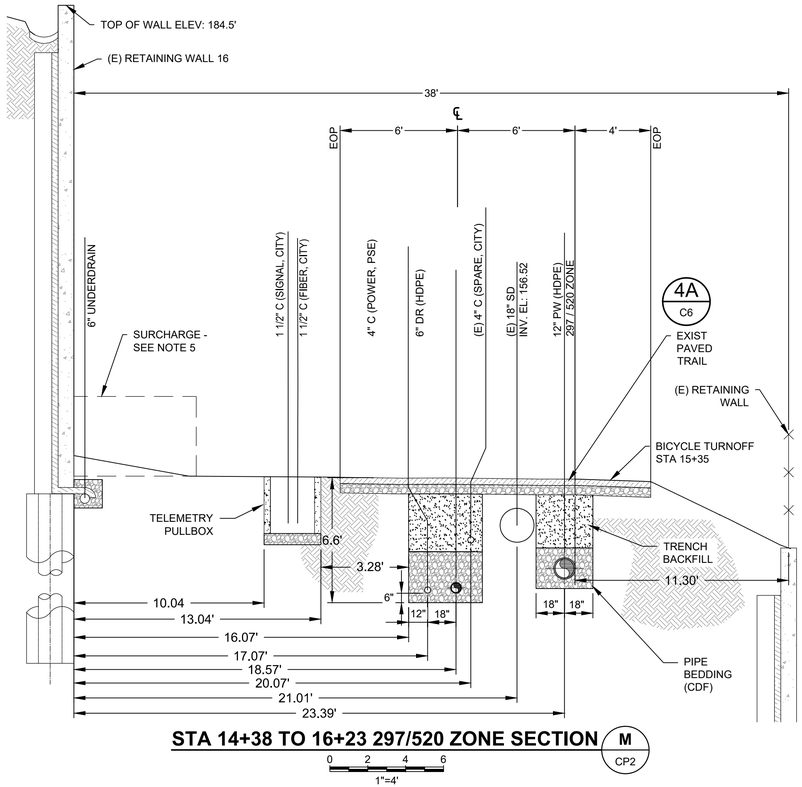
STA 11+33 TO 13+32 297/520 ZONE SECTION (K, CP2)

0 2 4 6
1"=4'



STA 13+32 TO 14+38 297/520 ZONE SECTION (L, CP2)

0 2 4 6
1"=4'



STA 14+38 TO 16+23 297/520 ZONE SECTION (M, CP2)

0 2 4 6
1"=4'

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

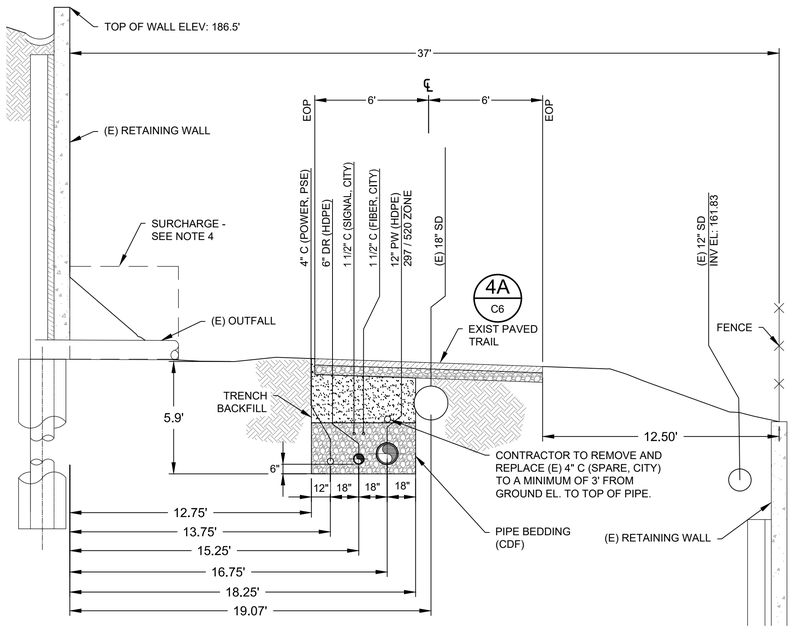
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 3

90% SUBMITTAL (REVISED 11/30/2020)

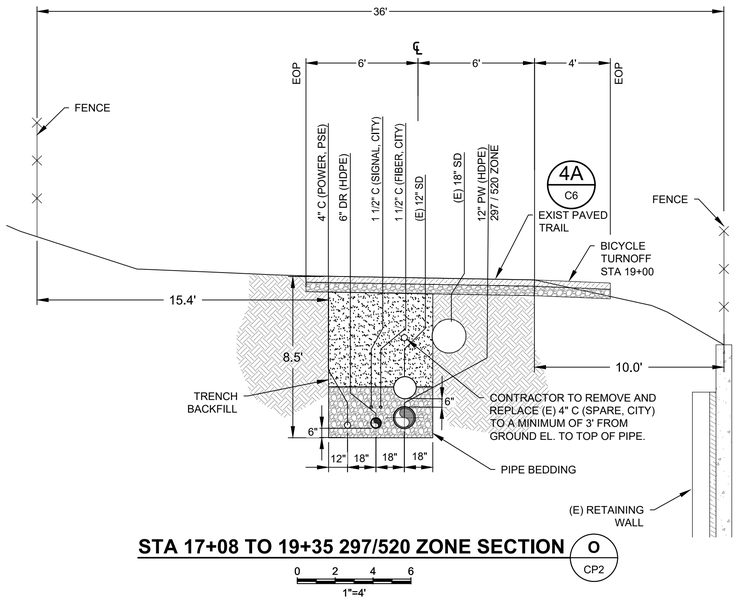
FILE NAME 139700500-CP022.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP22 OF

12/10/2020 8:38 AM NICOLASLOZANOORDONEZ
\\kjc-local\KJC-Root\KJ-Office\FWY\CAD\CAD\131\1397005.00_City_of_Issaquah\139700500-CP022.dwg



STA 16+23 TO 17+08 297/520 ZONE SECTION (N / CP2)

0 2 4 6
1"=4'

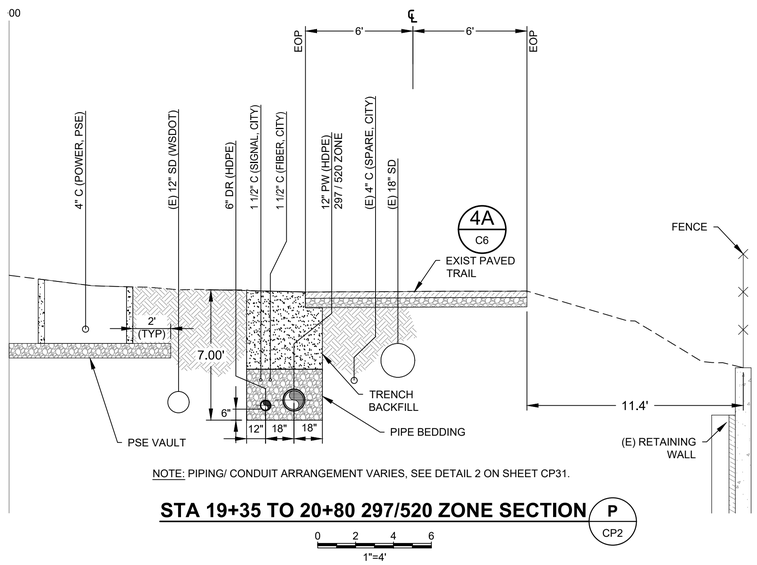


STA 17+08 TO 19+35 297/520 ZONE SECTION (O / CP2)

0 2 4 6
1"=4'

NOTES:

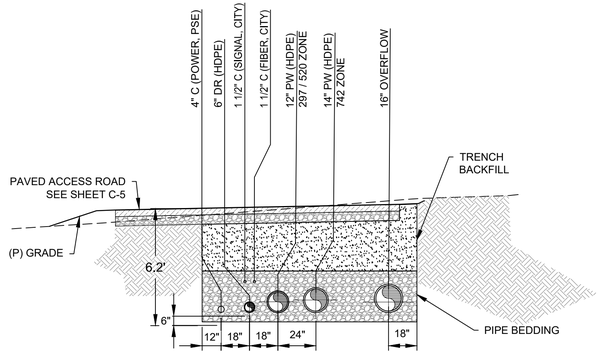
1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'
4. PROVIDE 4FT X 6FT SURCHARGE AT WALL WHILE TRENCH IS OPEN. SEE GEOTECHNICAL REPORT.



NOTE: PIPING/ CONDUIT ARRANGEMENT VARIES, SEE DETAIL 2 ON SHEET CP31.

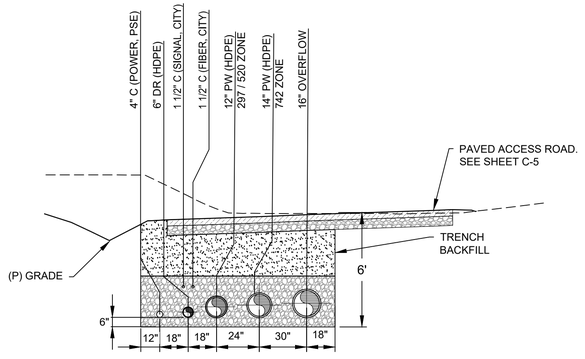
STA 19+35 TO 20+80 297/520 ZONE SECTION (P / CP2)

0 2 4 6
1"=4'



STA 20+80 TO STA 24+00 297/520/742 ZONE SECTION (Q / CP3)

0 2 4 6
1"=4'



STA 24+00 TO 25+05 297/520/742 ZONE SECTION (R / CP3)

0 2 4 6
1"=4'

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 4

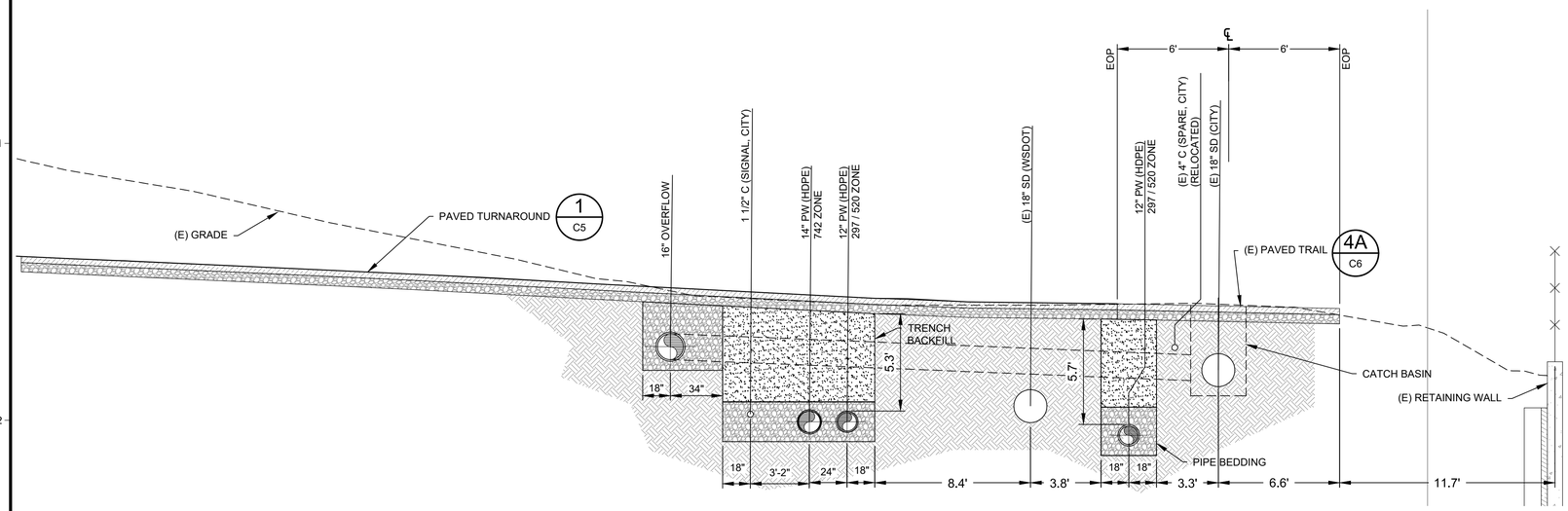
90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP023.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP23 OF

\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\13\1397005.00_City_of_Issaquah\139700500-CP023.dwg 12/10/2020 8:39 AM NICOLASLOZANOORDONEZ

NOTES:

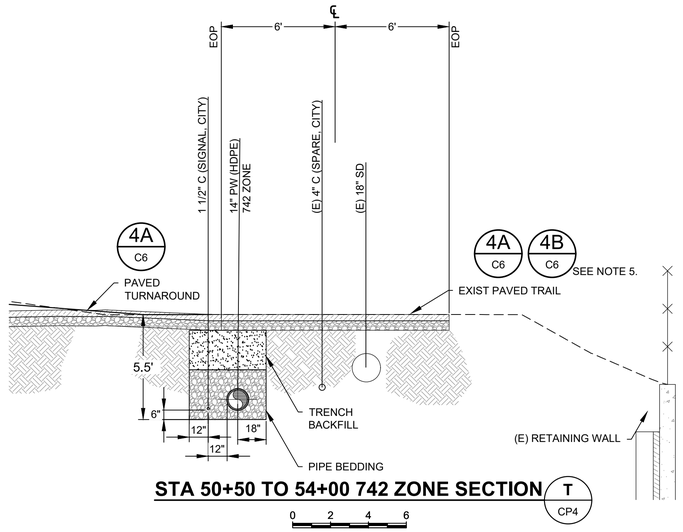
1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'
4. PAVE PER DETAIL 4A ON SHEET C6 TO STA 51+50, DETAIL 4B ON SHEET C6 AFTER STA 51+50.



STA 50+00 TO 50+50 742 ZONE SECTION (S) CP3 CP31

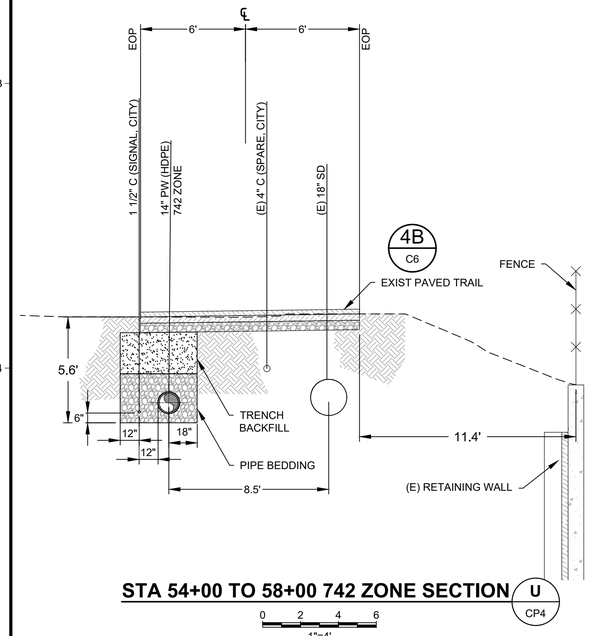
AND STA 19+75 TO 20+25 297/520 ZONE SECTION

0 2 4 6
1"=4'



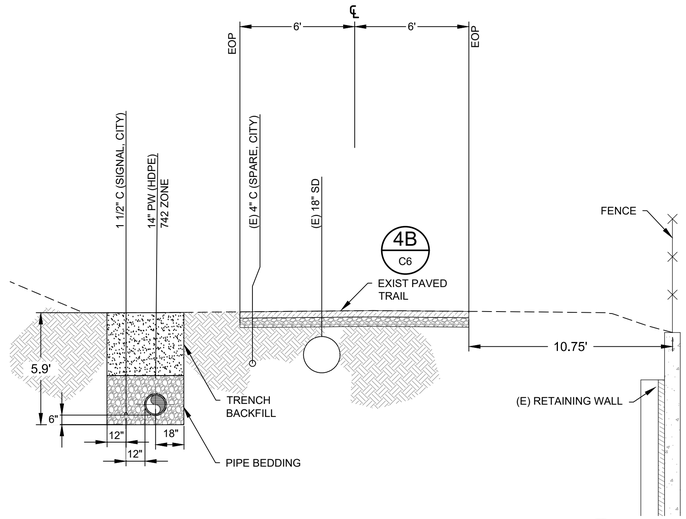
STA 50+50 TO 54+00 742 ZONE SECTION (T) CP4

0 2 4 6
1"=4'



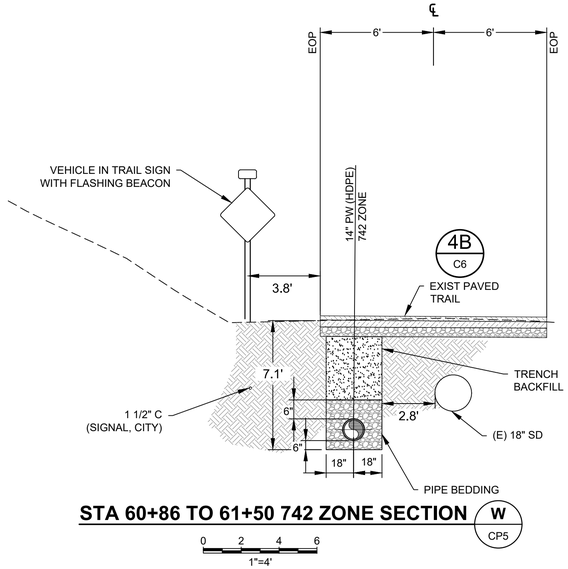
STA 54+00 TO 58+00 742 ZONE SECTION (U) CP4

0 2 4 6
1"=4'



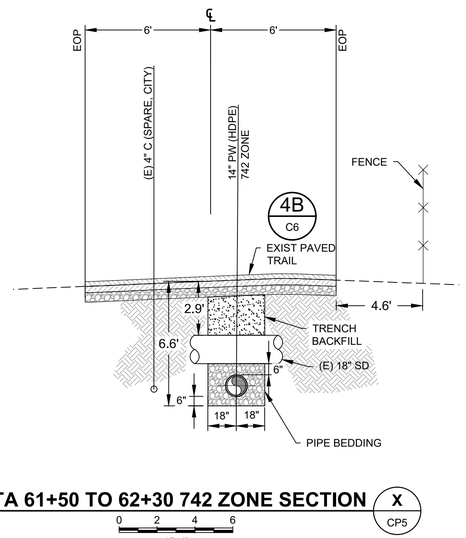
STA 58+00 TO 60+90 742 ZONE SECTION (V) CP4

0 2 4 6
1"=4'



STA 60+86 TO 61+50 742 ZONE SECTION (W) CP5

0 2 4 6
1"=4'



STA 61+50 TO 62+30 742 ZONE SECTION (X) CP5

0 2 4 6
1"=4'

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 5

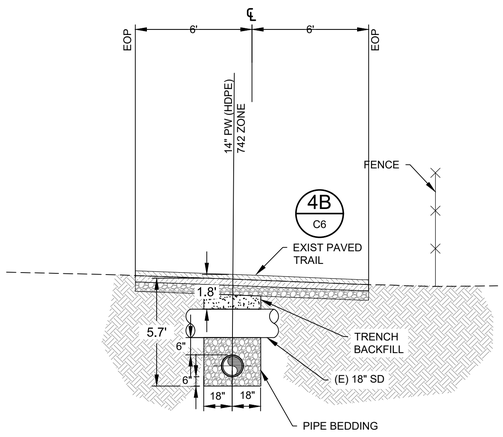
90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP024.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP24 OF

\\kjc-local\KJC-Root\KJ-Office\FWY\CAD\CAD\131\1397005.00_City_of_Issaquah\139700500-CP024.dwg
12/10/2020 8:41 AM
NICOLASLOZANOORDONEZ

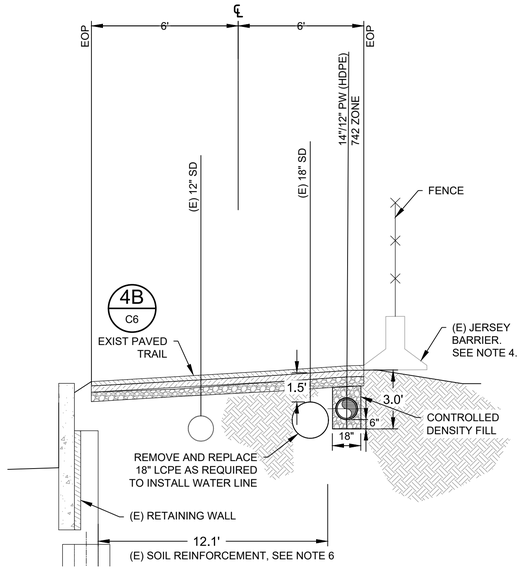
NOTES:

1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'.
4. RESET TRAFFIC BARRIERS FOR CONSTRUCTION PER TRAFFIC CONTROL PLAN, STA 62+80 TO 66+47.
5. SOIL REINFORCEMENT (GEOGRID)IS PRESENT IN THIS AREA. CUTTING OF GEOGRID IS PROHIBITED.



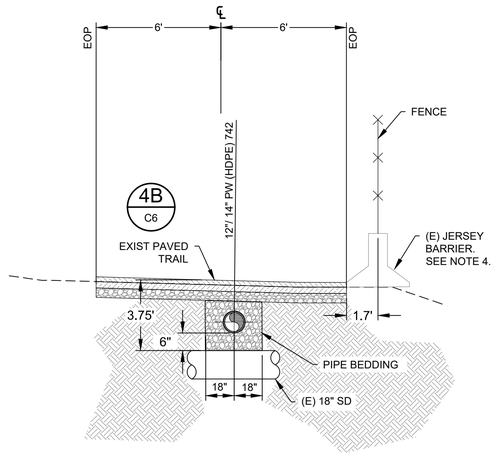
STA 62+30 TO 64+60 742 ZONE SECTION — Y / CP5

0 2 4 6
1"=4'



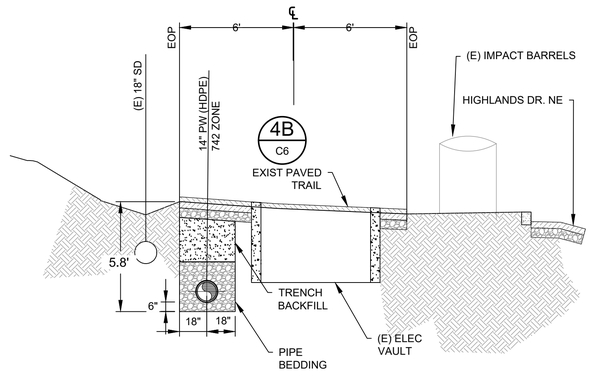
STA 64+60 TO 66+10 742 ZONE SECTION — Z / CP5

0 2 4 6
1"=4'



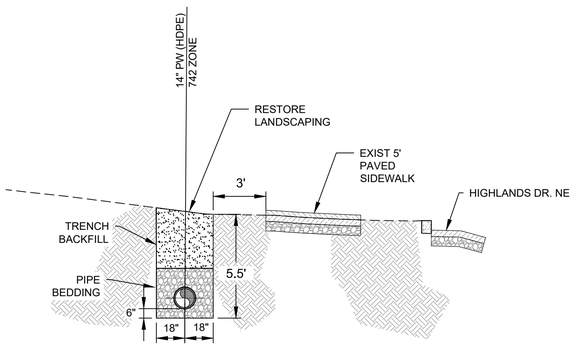
STA 66+60 TO 69+50 742 ZONE SECTION — AA / CP5

0 2 4 6
1"=4'



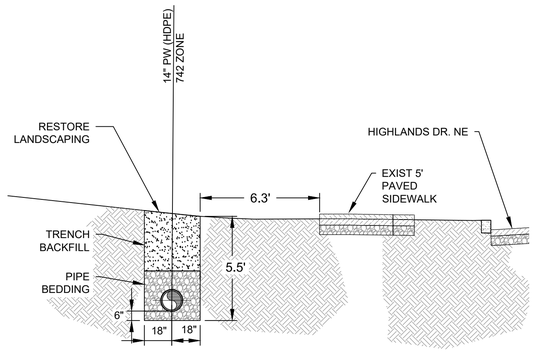
STA 69+50 TO 73+75 742 ZONE SECTION — BB / CP6

0 2 4 6
1"=4'



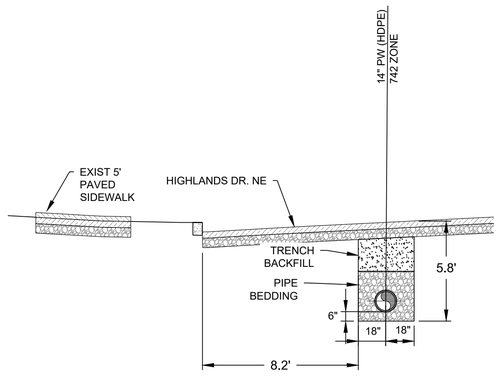
STA 73+75 TO 77+70 742 ZONE SECTION — CC / CP6

0 2 4 6
1"=4'



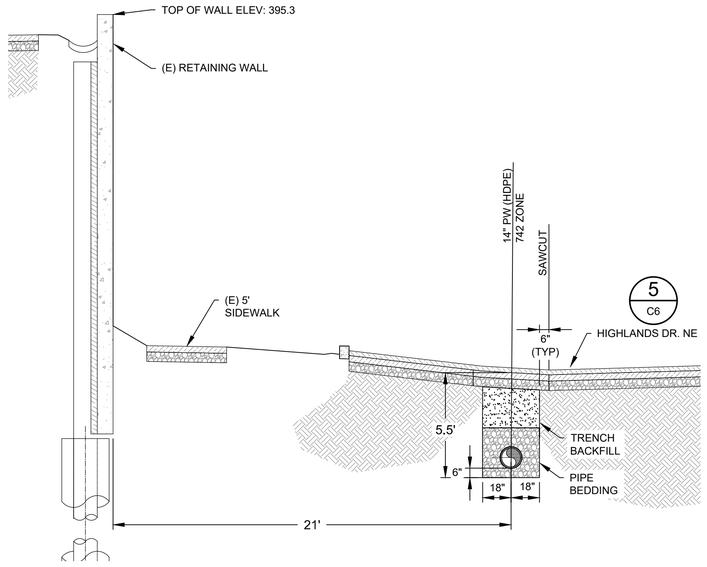
STA 77+70 TO 82+00 742 ZONE SECTION — DD / CP7

0 2 4 6
1"=4'



STA 77+70 TO 82+00 742 ZONE SECTION — EE / CP7

0 2 4 6
1"=4'



STA 82+00 TO 86+00 742 ZONE SECTION — FF / CP7

0 2 4 6
1"=4'

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"
0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

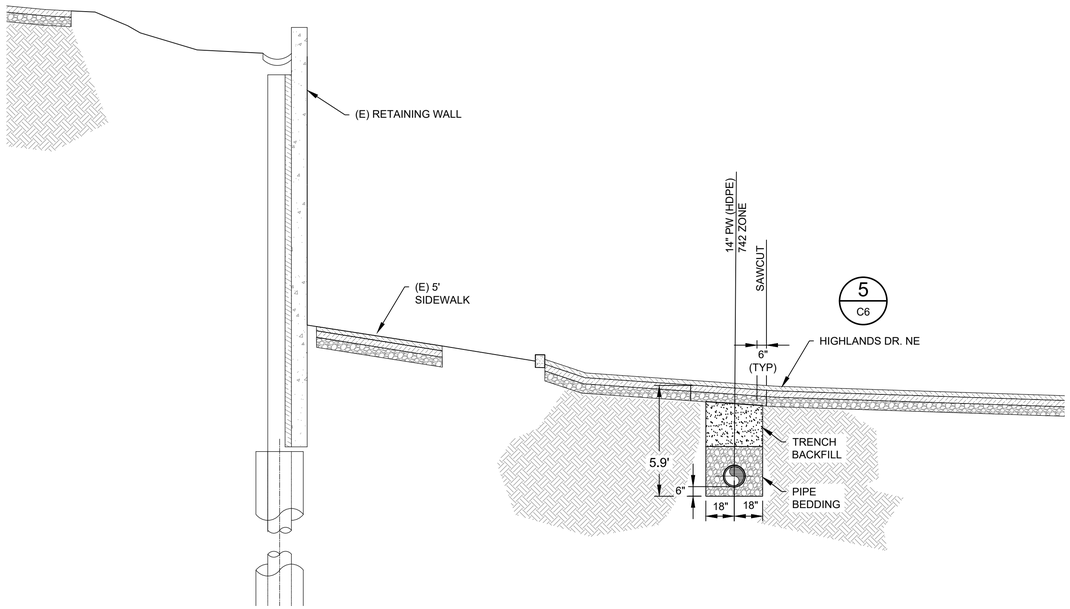
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE SECTIONS - 6

90% SUBMITTAL (REVISED 11/30/2020)

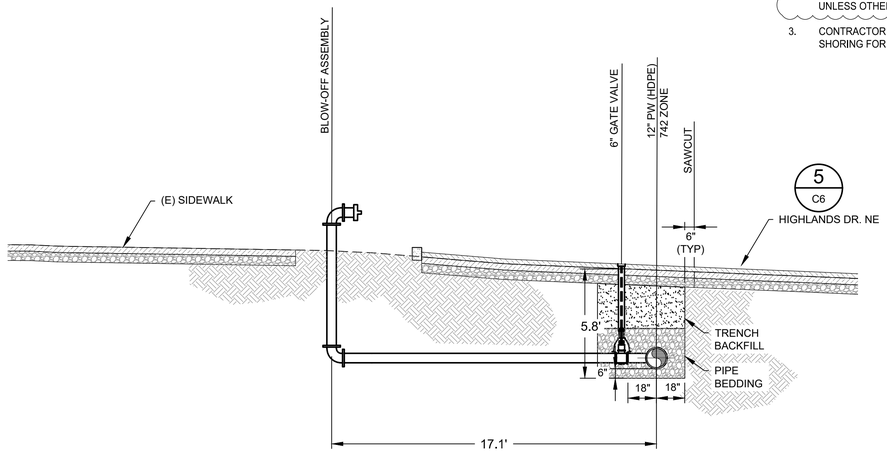
FILE NAME 139700500-CP025.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP25 OF

12/10/2020 9:38 AM
NICOLASLOZANOORDONEZ
\\kjc.local\KJC-Root\KJ-Office\FWY\CAD\CAD\13\1397005.00_City_of_Issaquah\139700500-CP025.dwg



STA 86+00 TO 89+00 742 ZONE SECTION GG CP8

0 2 4 6
1"=4'

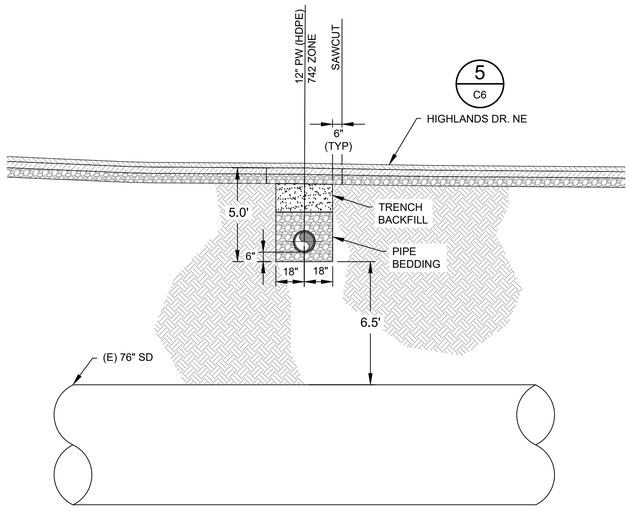


STA 89+00 TO 90+60 742 ZONE SECTION HH CP8

0 2 4 6
1"=4'

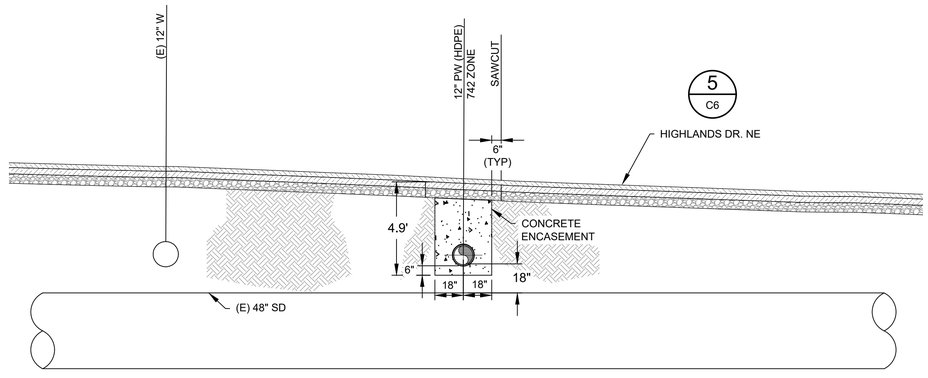
NOTES:

1. INSTALL LOCATE WIRE PER CITY STANDARD DETAIL W-06.
2. INSTALL PIPE BEDDING AND TRENCH BACKFILL PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PREPARE SHORING PLAN, PROVIDE SHORING FOR TRENCH DEPTHS GREATER THAN 4'



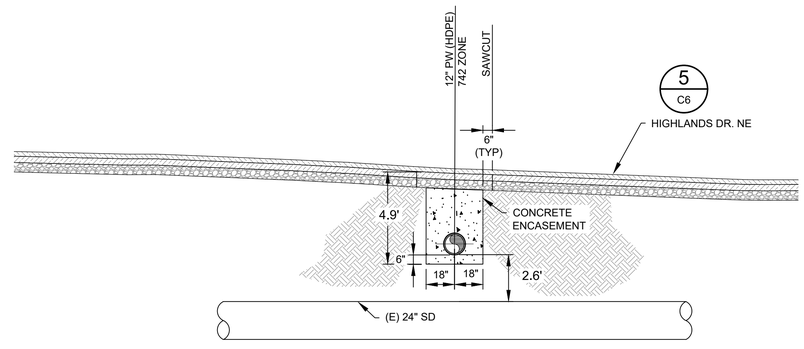
STA 90+60 TO 90+80 742 ZONE SECTION II CP8

0 2 4 6
1"=4'



STA 90+80 TO 90+90 742 ZONE SECTION JJ CP8

0 2 4 6
1"=4'



STA 90+90 TO 90+91 742 ZONE SECTION KK CP8

0 2 4 6
1"=4'

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAN STATE OF WASHINGTON 24536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED KSP
DRAWN RJS
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

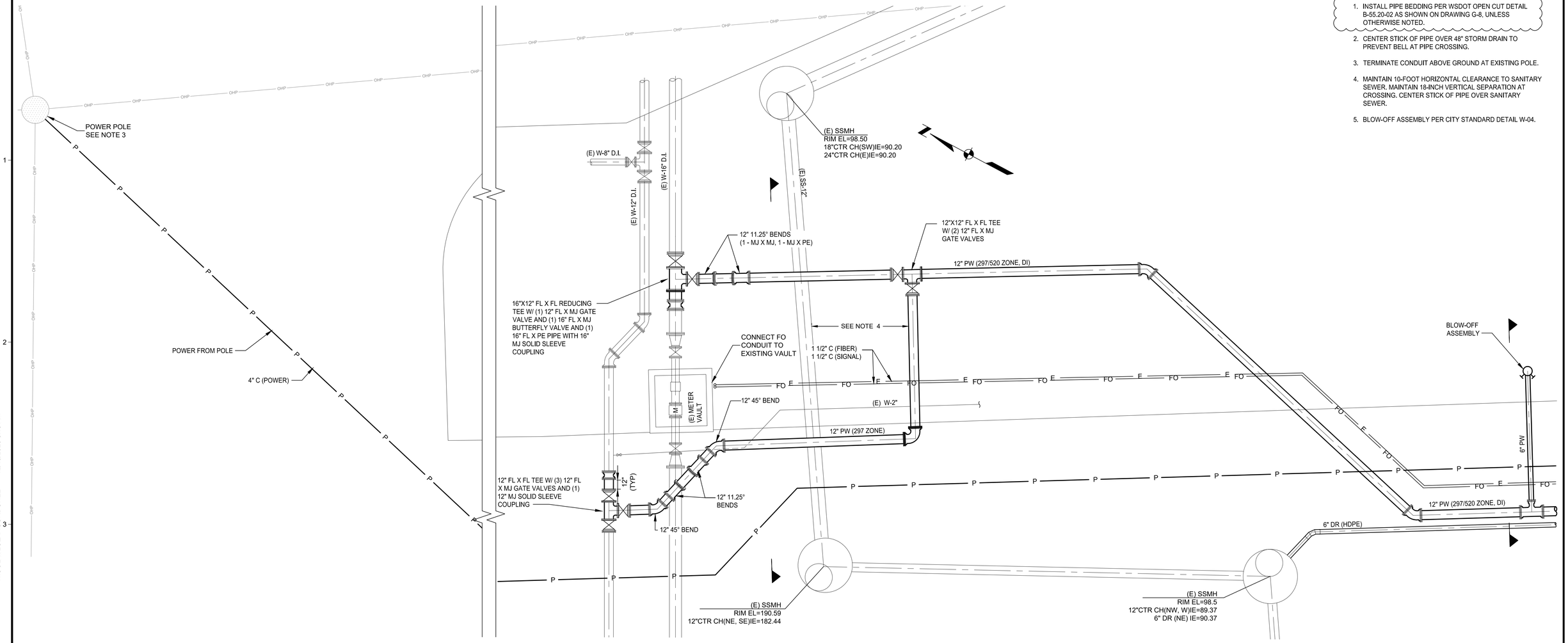
PIPELINE SECTIONS - 7

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP026.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP26 OF

NOTES:

1. INSTALL PIPE BEDDING PER WSDOT OPEN CUT DETAIL B-55.20-02 AS SHOWN ON DRAWING G-8, UNLESS OTHERWISE NOTED.
2. CENTER STICK OF PIPE OVER 48" STORM DRAIN TO PREVENT BELL AT PIPE CROSSING.
3. TERMINATE CONDUIT ABOVE GROUND AT EXISTING POLE.
4. MAINTAIN 10-FOOT HORIZONTAL CLEARANCE TO SANITARY SEWER. MAINTAIN 18-INCH VERTICAL SEPARATION AT CROSSING. CENTER STICK OF PIPE OVER SANITARY SEWER.
5. BLOW-OFF ASSEMBLY PER CITY STANDARD DETAIL W-04.



DETAIL 1 / CP1

0 4 8

3/16"=1'-0"

12/10/2020 8:48 AM NICOLASLOZANOORDONEZ

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED DP/JMF

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE DETAILS - 1

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-CP030.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET CP30 OF

NOTES:

1. PAVING OVER TURN AROUND AREA PER DETAIL 1 ON SHEET C5. TRANSITION TO TRAIL PAVING DETAIL AT EXISTING TRAIL LIMITS. START TRAIL PAVING PER DETAIL 4B ON SHEET C6 AT EDGE OF TURNAROUND.
2. CONTINUE PAVING PER DETAIL 4A ON SHEET C6 FOR 100 FT ALONG TRAIL, THEN TRANSITION TO DETAIL 4B ON SHEET C6.

CONTRACTOR TO REPLACE FENCE IN KIND PER WSDOT DETAIL L-20.10-03

1 1/2" C (SIGNAL)
1 1/2" C (FIBER)
WITH 6" DRAIN BELOW

14" PW (742 ZONE, HDPE)

12" PW (297 ZONE, HDPE)

16" OF (HDPE) SLOPE AT 0.5%

S / CP24

PSE VAULT

6" DR (HDPE)

4" C (POWER)

45° WYE
WITH CLEANOUT

TELEMETRY PULLBOX — 9 / C7

14" MJ GATE VALVE (TYP)

16" OF
45° BEND
INV. = 184.52

22.5° BEND

12" MJ
GATE VALVE

1 1/2" C (SIGNAL)

1 / C5 — EDGE OF PAVEMENT SEE NOTE 1

(E) 18" SD

BLOW-OFF ASSEMBLY
CITY DETAIL W-04

45° BEND

16" OF (HDPE)

16" OF
45° BEND
INV. = 184.44

(E) EDGE OF TRAIL

(E) 4" C (SPARE)

4A / C6 — EDGE OF PAVEMENT SEE NOTE 1

ADJUST (E) 4" CONDUIT FOR NEW 16" OF

(E) CHAIN LINK FENCE
CONTRACTOR TO REPLACE FENCE IN KIND PER WSDOT DETAIL L-20.10-03

PAVING LIMITS

(E) PULLBOX

4A / C6 — SEE NOTE 2

EDGE OF PAVEMENT SEE NOTE 1 — 4B / C6

(E) RETAINING WALL

CB #11A
CB TYPE 1L WITH SOLID LOCKING LID
& ADA GRATE
WSDOT DETAIL B-5.40-02 & B-30.15-00,
AS MODIFIED, SEE SHEET C9
(N) 16" INV. IN = 184.39
(E) 18" INV. IN = 184.39
(E) 18" INV. OUT = 184.39
RIM = 188.37'

DETAIL 2 / CP2. CP3
0 4 8
3/16"=1'-0"

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USE OF DOCUMENTS

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	LMM
CHECKED	MDL

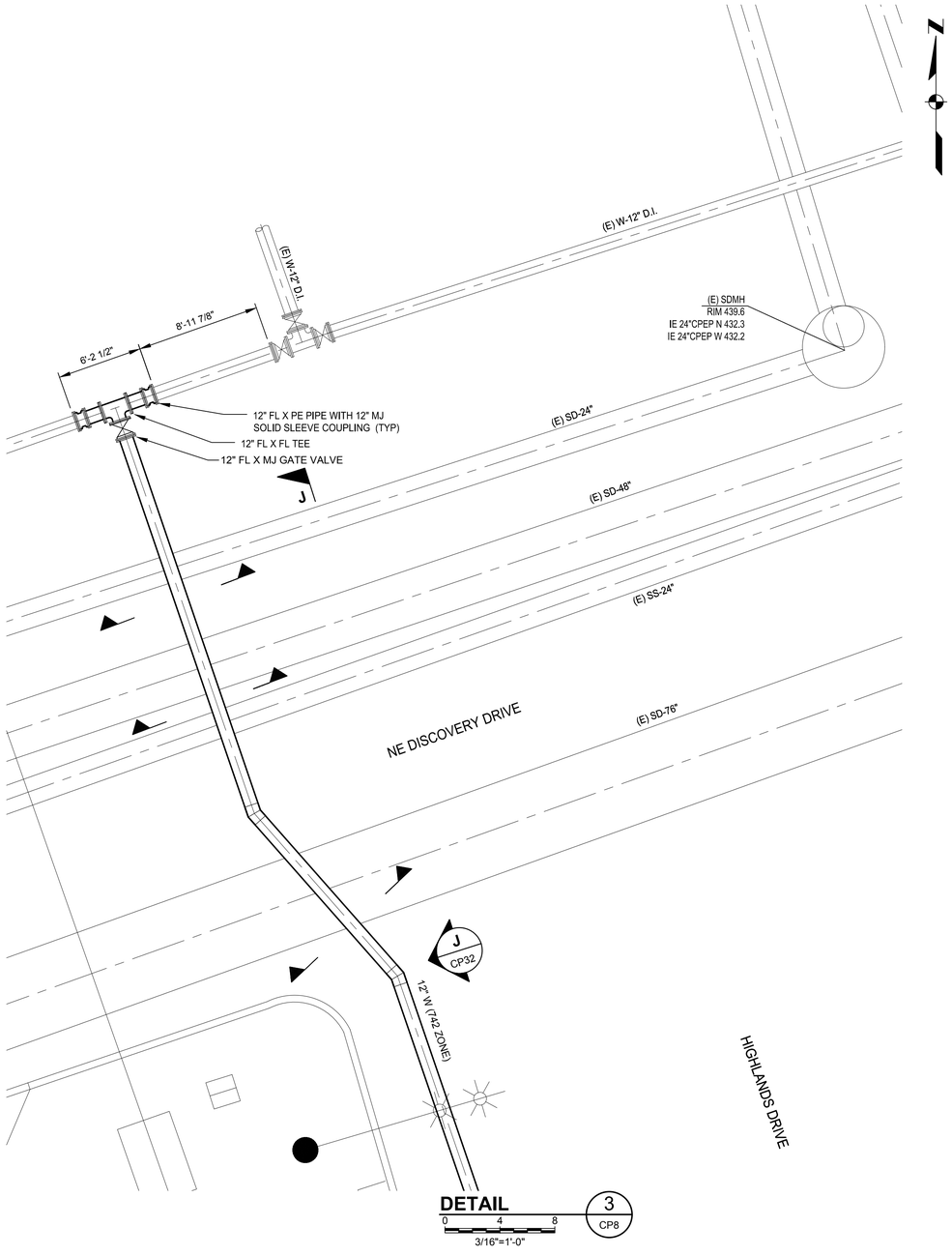
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

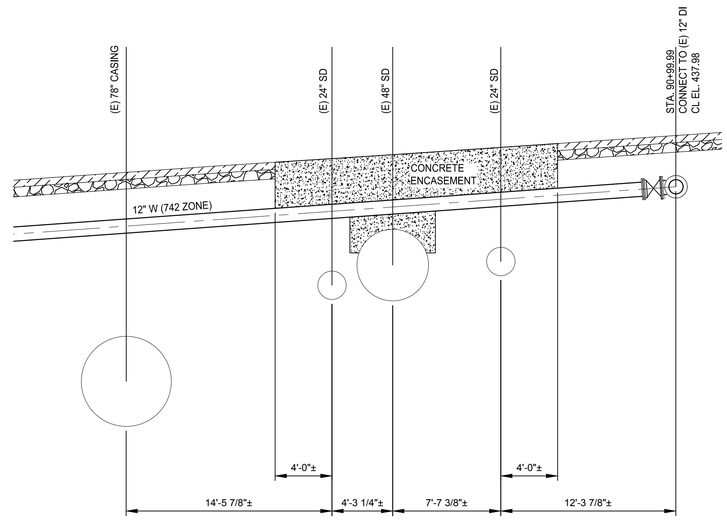
PIPELINE DETAILS - 2

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-CP031.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	54 OF 83
	CP31



DETAIL 3 (CP8)
0 4 8
3/16"=1'-0"



SECTION J (CP32)
0 4 8
3/16"=1'-0"

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAT — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	KSP
DRAWN	DRP
CHECKED	MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE DETAILS - 3

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-CP032.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	55 OF 83
	CP32

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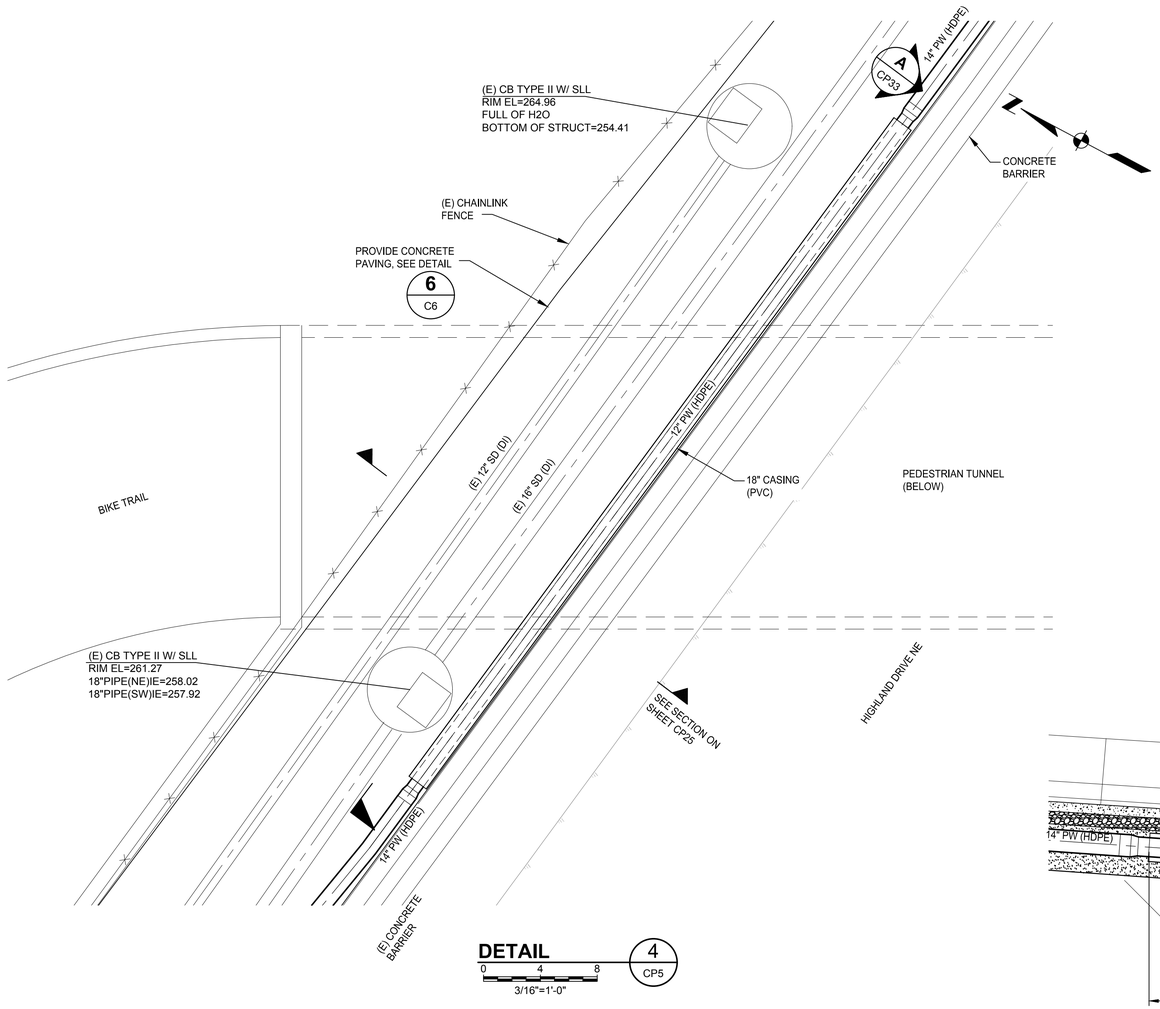
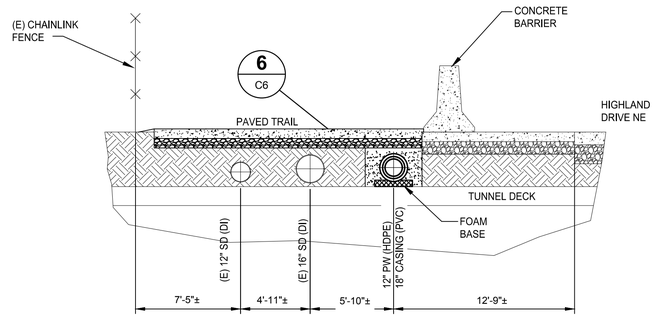


DETAIL 4 / CP5

0 4 8

3/16"=1'-0"



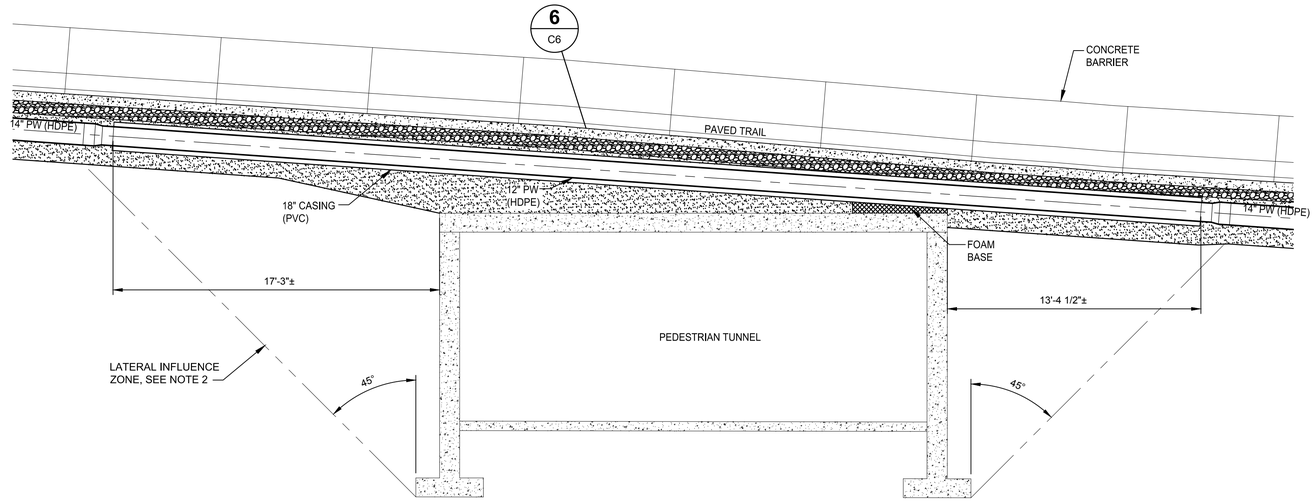
STA 65+90 742 ZONE SECTION

0 3 6

1/4"=1'-0"

NOTES:

1. EXTEND CONCRETE PAVING OVER PIPE HAVING LESS THAN FOUR FEET OF COVER.
2. CASING TO EXTEND PAST TUNNEL LATERAL INFLUENCE ZONE AS SHOWN.



SECTION A / CP33

0 3 6

1/4"=1'-0"

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 34536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED DP/JMF

DRAWN LMM

CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE DETAILS - 4

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-CP033.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 56 OF 83
CP33

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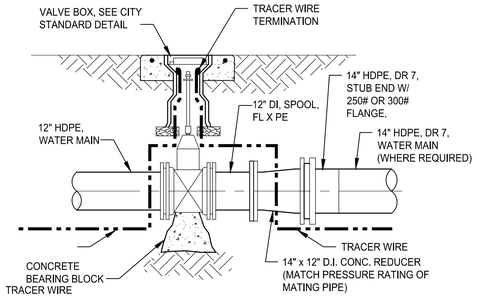
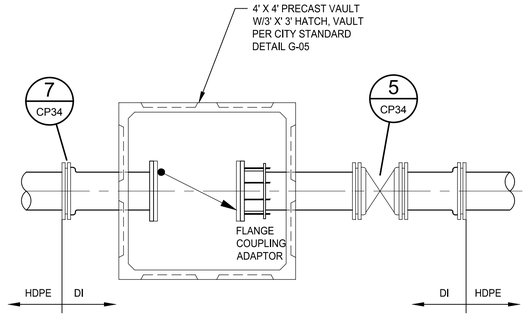
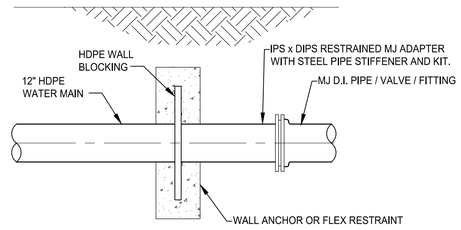


NOTES:
1. SEE HDPE TRANSITION DETAIL FOR STIFFENER REQUIREMENTS.
2. PROVIDE TWO LAYERS OF PE WRAP BETWEEN BLOCK AND VALVE.
3. FOR CONNECTIONS WHERE HDPE PIPE IS LARGER THAT VALVE, PROVIDE DI ECCENTRIC REDUCERS W/RESTRAINTS.

GATE VALVE IN HDPE MAIN (5 / CP34)
SCALE: NONE



CHECK VALVE IN HDPE MAIN (6 / CP34)
SCALE: NONE



NOTES:
1. INSTALL STAINLESS STEEL INTERNAL STIFFENER IN THE END OF THE HDPE PIPE WHEN THE HDPE PIPE IS INSERTED INTO THE BELL END OF NON-HDPE PIPE, VALVE, FITTING OR INTO THE HUB OF A MECHANICAL COUPLING.
2. INTERNAL STIFFENER CAN BE WEDGE TYPE IF SOLID BODY. STIFFENER WILL BE RATED FIR DR AND ID IF PIPE. FOR WATER, 304 OR 316 STAIN LESS STEEL IS ALLOWED. FOR WASTEWATER 316 IS REQUIRED.
3. MECHANICAL JOINT ADAPTERS SHELL BE PE4710 AND CAN BE MADE TO ASTM D 3261. IF MACHINED, ADAPTERS MUST MEET THE REQUIREMENTS OF ASTM F 2206. ADAPTERS SHALL HAVE A PRESSURE RATING EQUAL TO THE PIPE.
4. FIGURE ABOVE SHOWS TRANSITION TO BELL END OF DIP. FOR TRANSITION FO PLAIN END OF DIP, PROVIDE BELL MJ ADAPTER WITH RESTRAINT KIT.

HDPE TO DUCTILE IRON TRANSTITION ASSEMBLY (7 / CP34)
SCALE: NONE

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED JMF
DRAWN DRP
CHECKED MDL

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PIPELINE DETAILS - 5

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-CP034.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 57 OF 82
CP34

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ISSAQUAH PUMP STATION CODE SUMMARY

CODES USED IN ANALYSIS:

BUILDING CODE - WASHINGTON STATE BUILDING CODE BASED ON 2015 INTERNATIONAL BUILDING CODE (IBC)

PLUMBING CODE - WASHINGTON STATE PLUMBING CODE BASED ON THE 2015 UNIFORM PLUMBING CODE (UPC)

MECHNICAL CODE - WASHINGTON STATE MECHANICAL CODE BASED ON THE 2015 INTERNATIONAL MECHANICAL CODE (IMC)

ELECTRICAL CODE - NEC 2014

FIRE/LIFE SAFETY CODE - WASHINGTON STATE FIRE CODE BASED ON THE 2015 INTERNATIONAL FIRE CODE (IFC)

ENERGY CODE - 2015 WASHINGTON STATE ENERGY CODE

KING COUNTY CODE - TITLES 16 and 17

WISHA (RCW 49.17) STANDARDS

CLIMATE ZONE:

4C

JURISDICTION:

CITY OF ISSAQUAH, WASHINGTON
CITY HALL NORTHWEST
1775 12th AVENUE NORTHWEST
ISSAQUAH, WASHINGTON 98027
PH (425) 837-3100

BUILDING DESCRIPTION/OCCUPANCY

THE BUILDING IS A PROCESS FACILITY, SINGLE OCCUPANCY, CLASSIFICATION F-1.

THIS IS A ONE-STORY CMU BUILDING WITH PRE-ENGINEERED WOOD TRUSS ROOF FRAMING AND METAL ROOF.

AREA

GROSS AREA IS 1,140 SQUARE FEET ON A SINGLE FLOOR. ALLOWABLE AREA IS 8,500 SQUARE FEET PER FLOOR PER TABLE 506.2.

HEIGHT

20'-0"± TO TOP OF ROOF. 40'-0" IS ALLOWED PER TABLE 504.3.

CONSTRUCTION

TYPE VB PER IBC SECTION 602.5 AND TABLE 503.

CHEMICAL STORAGE

NONE

ACCESSIBILITY

NOT REQUIRED FOR EQUIPMENT SPACES. SPACES FREQUENTED ONLY BY SERVICE PERSONNEL FOR MAINTENANCE, REPAIR OR OCCASIONAL MONITORING OF EQUIPMENT ARE NOT REQUIRED TO BE ACCESSIBLE PER IBC 1103.2.9

EXITS REQUIRED

1 ALLOWED PER IBC 10006.2.1.

FIRE SPRINKLERS

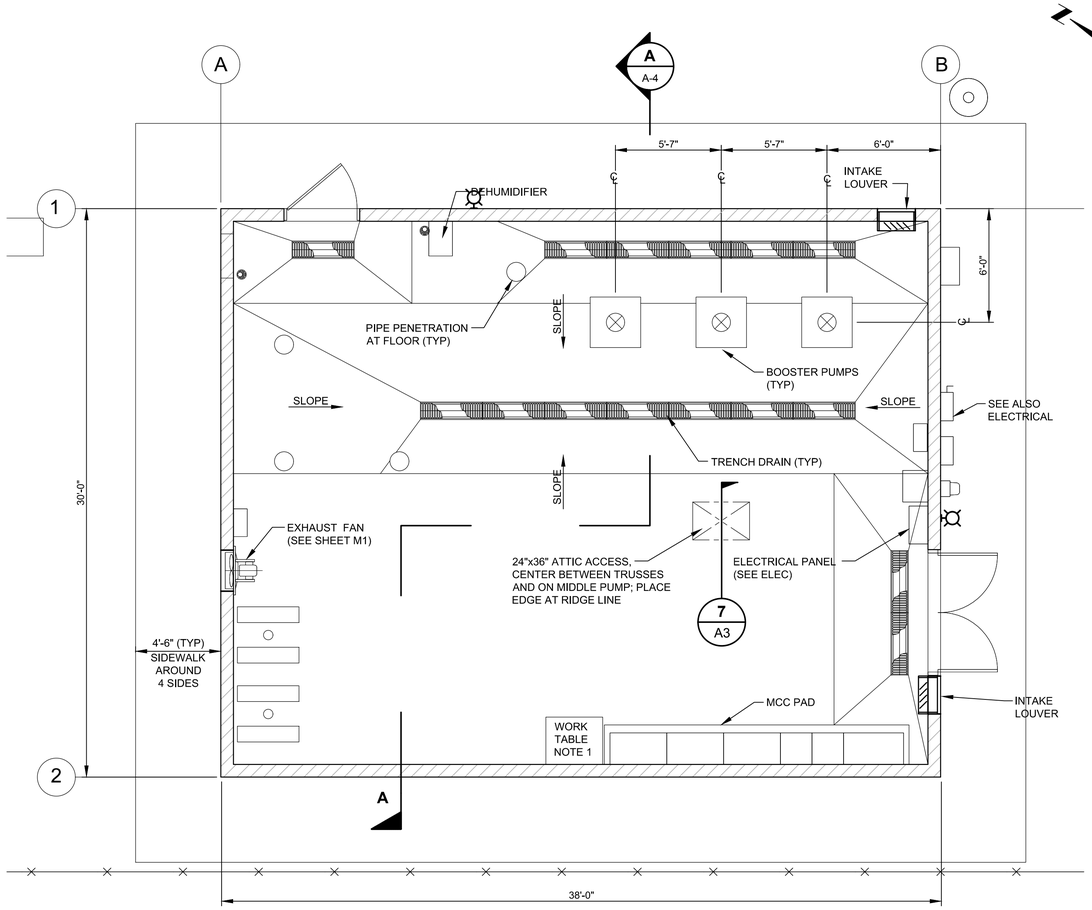
NOT REQUIRED PER IBC 903.2.4

FIRE RESISTANCE / DISTANCE TO PROPERTY LINE

MORE THAN 10'-0" TO PROPERTY LINE, NO FIRE RESISTANCE RATING REQUIRED PER TABLE 602.

NOTES

1. FOR SITE INFORMATION SEE CIVIL DRAWINGS
2. PROCESS EQUIPMENT IS NOT SHOWN FOR CLARITY. SEE MECHANICAL DRAWINGS.



FLOOR PLAN
0 3 6
1/4"=1'-0"

NOTES

1. WORK TABLE TO BE LOCKABLE SHOP DESK. GRAINGER MODEL NO. 4TX91 OR APPROVED EQUAL.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

4455 REGISTERED ARCHITECT
MARK PRESTON
STATE OF WASHINGTON

DESIGNED MP
DRAWN MP
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

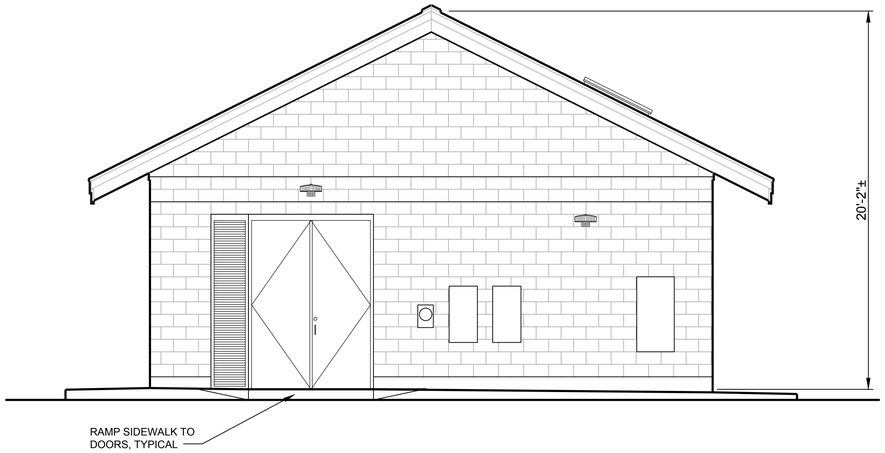
PUMP STATION FLOOR PLAN AND CODE SUMMARY

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-A001.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET A1 OF

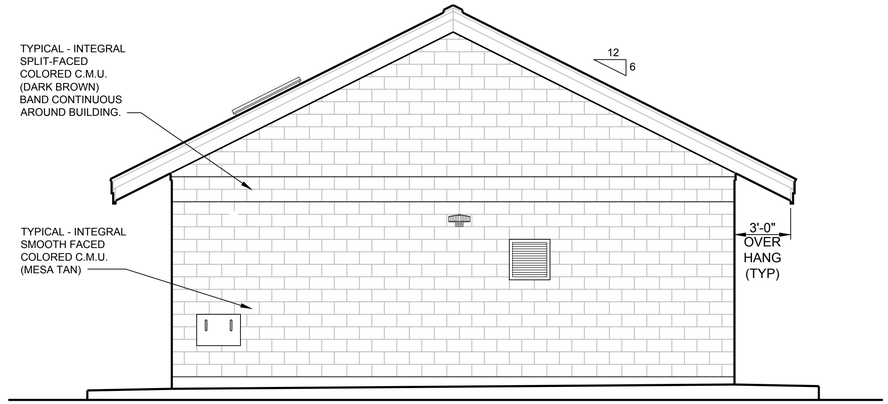
NOTES:

1. CMU COLOR TO BE MESA TAN WITH TAN GROUT. ROOF TO BE JADE GREEN.
2. DOORS, LOUVERS AND FRAMES TO BE SW 6748 "GREENS".



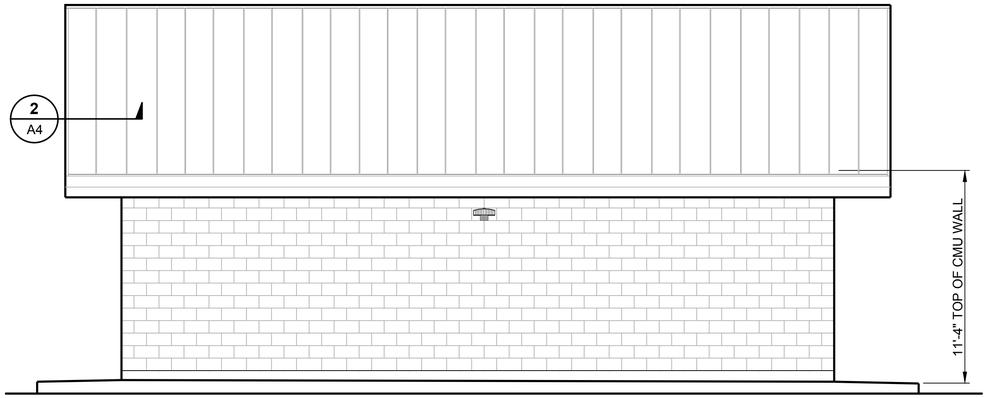
SOUTH ELEVATION

0 3 6
1/4"=1'-0"



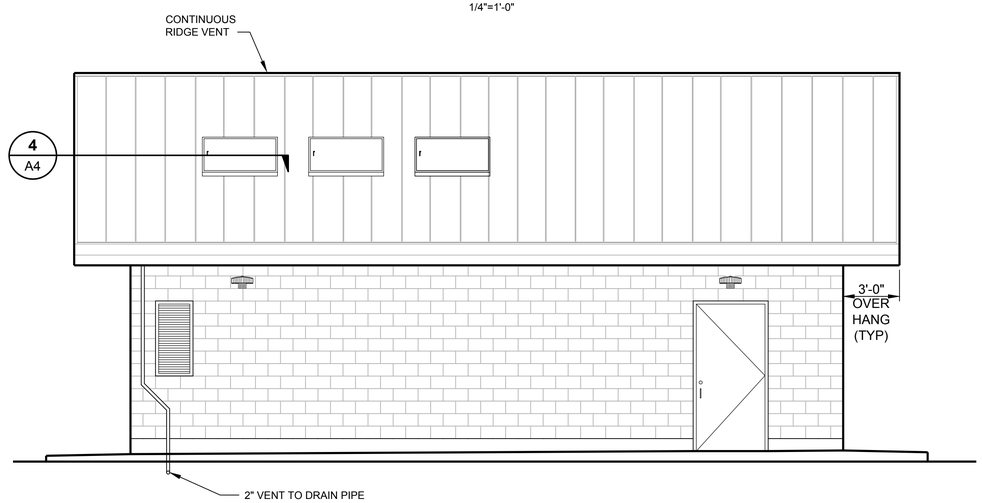
NORTH ELEVATION

0 3 6
1/4"=1'-0"



WEST ELEVATION

0 3 6
1/4"=1'-0"



EAST ELEVATION

0 3 6
1/4"=1'-0"

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SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

4455 REGISTERED ARCHITECT
MARK PRESTON
STATE OF WASHINGTON

DESIGNED MP
DRAWN MP
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION EXTERIOR ELEVATIONS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-A002.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET A2 OF

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FINISH SCHEDULE

	ROOM	FLOOR		BASE		WALL								CEILING		
						NORTH		WEST		SOUTH		EAST				
NO.	NAME	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT
01	PUMP ROOM	CONC	FS	N/A	---	CMU	PTS	CMU	PTS	CMU	PTS	CMU	PTS	MGP	PTS	SLOPED

FINISH SCHEDULE NOTES

1. SEAL ALL EXPOSED EXTERIOR MASONRY WITH WATER RESISTANT SEALER/ANTI-GRAFFITI COATING.
2. PROVIDE BLOCK FILLER AND PAINT ALL EXPOSED INTERIOR CMU SURFACES.
3. COLOR OF DOORS AND FRAMES, SHALL BE SELECTED BY OWNER FROM MANUFACTURER'S FULL PALETTE.

FINISH SCHEDULE ABBREVIATIONS

CMU = CONCRETE MASONRY UNIT
CONC = CONCRETE
FS = FLOOR SEALER - SEE ALSO SPECIFICATION SECTION 6-20.2(1)D
PTS = PAINT TO SPECIFICATIONS
MGP = MARINE-GRADE PLYWOOD

DOOR SCHEDULE

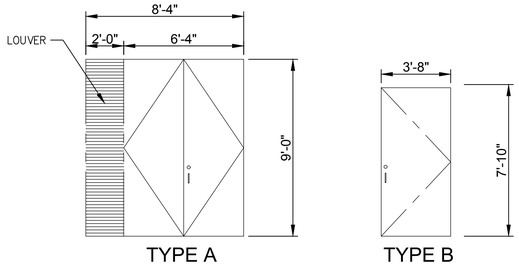
ROOM		DOOR		DOOR			FRAME				ASSEMBLY		REMARKS
NO.	NAME	NO.	WIDTH X HEIGHT	TYPE	MATERIAL	THERMAL VALUE	MATERIAL	HEAD	JAMB	SILL	HDWRE GROUP	FIRE RATING	
01	PUMP ROOM	01	6'-4" X 9'-0"	A	HM	-	HM	4/A3	5/A3	6/A3	1	-	INTEGRAL LOUVER SIDELITE
01	PUMP ROOM	02	3'-8" X 7'-10"	B	HM	-	HM	4/A3	5/A3	6/A3	2	-	

DOOR SCHEDULE NOTES

1. ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE PER 2012 IBC 1008.1.8.
2. SEE SPECIFICATIONS FOR HARDWARE.

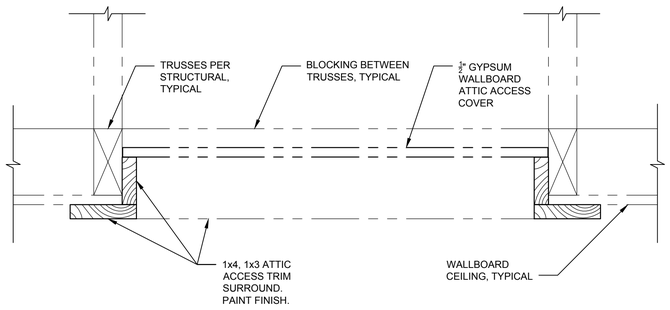
ABBREVIATIONS

HM = HOLLOW METAL

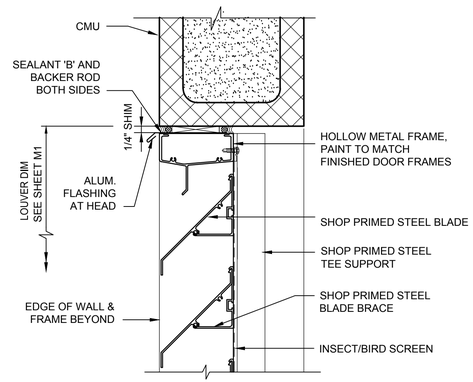


DOOR ELEVATIONS

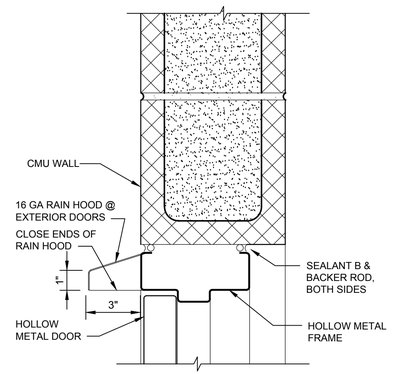
0 3 6
1/4"=1'-0"



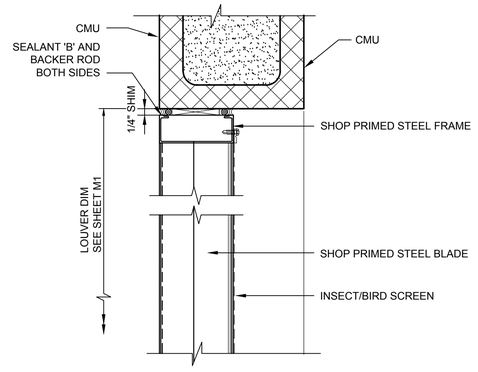
ATTIC ACCESS DETAIL 7 / A1
6 3 0 1'
SCALE: 3"=1'-0"



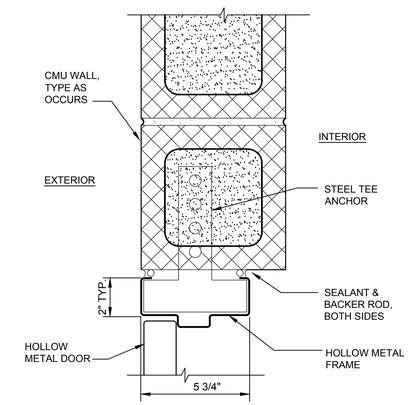
LOUVER HEAD DETAIL 1 / A3
6 3 0 1'
SCALE: 3"=1'-0"



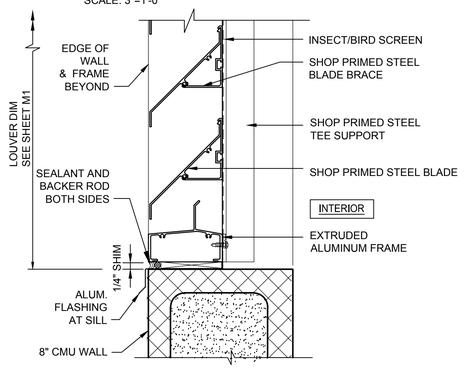
HM DOOR HEAD DETAIL 4 / A3
6 3 0 1'
SCALE: 3"=1'-0"



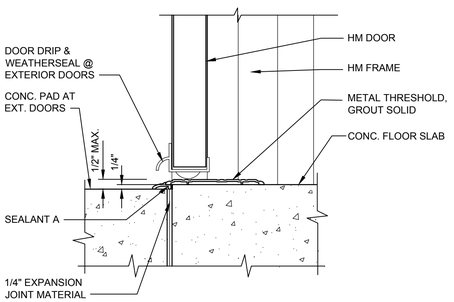
LOUVER JAMB DETAIL 2 / A3
6 3 0 1'
SCALE: 3"=1'-0"



HM DOOR JAMB DETAIL 5 / A3
6 3 0 1'
SCALE: 3"=1'-0"



LOUVER SILL DETAIL 3 / A3
6 3 0 1'
SCALE: 3"=1'-0"



HM DOOR SILL DETAIL 6 / A3
6 3 0 1'
SCALE: 3"=1'-0"

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

4455 REGISTERED ARCHITECT MARK PRESTON STATE OF WASHINGTON

DESIGNED MP
DRAWN MP
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION DOOR AND FINISH SCHEDULES AND DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-A003.DWG
JOB NO. 1397005*00
DATE NOVEMBER 2020
SHEET OF **A3**

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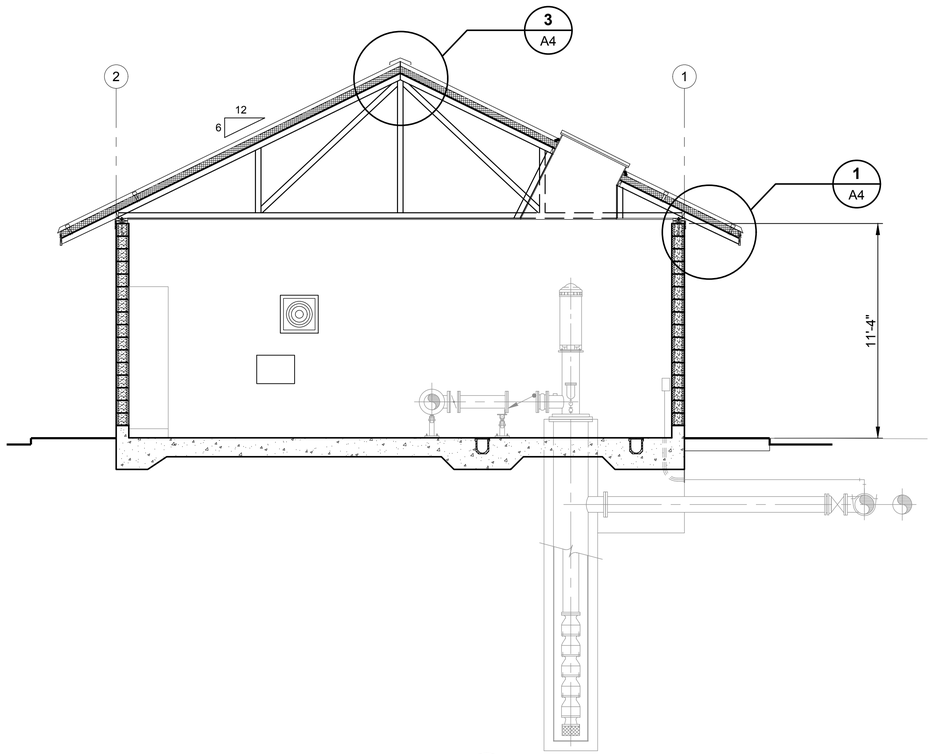
11/30/2020 9:56 AM
MARKPRESTON

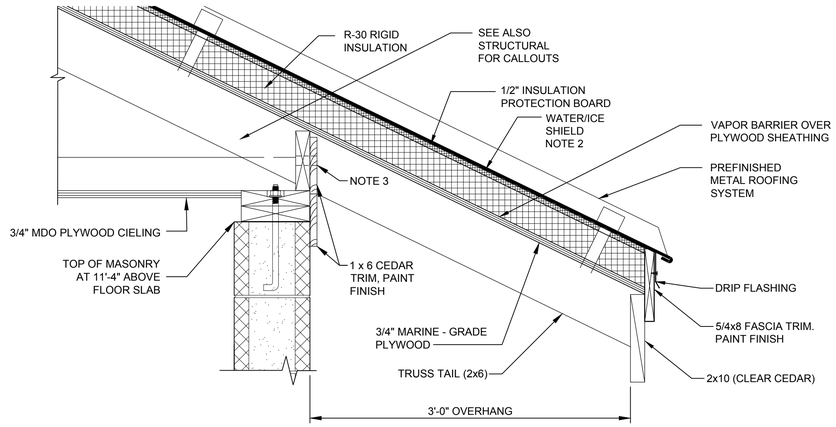


BUILDING SECTION A

0 3 6

1/4"=1'-0"

A1

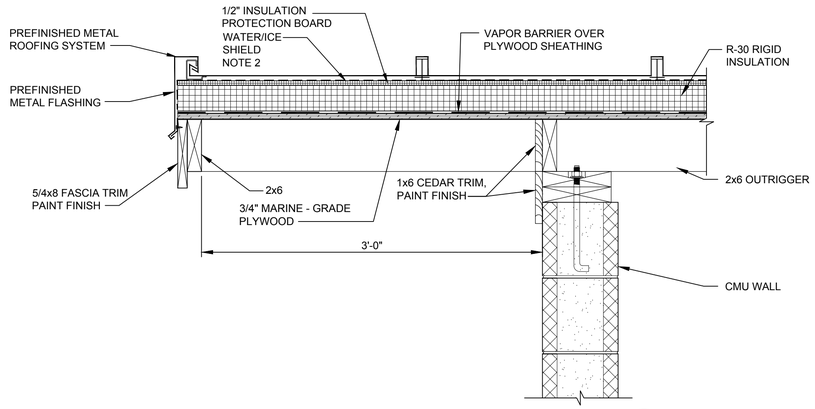


EAVE DETAIL 1

0 1

1 1/2"=1'-0"

A4

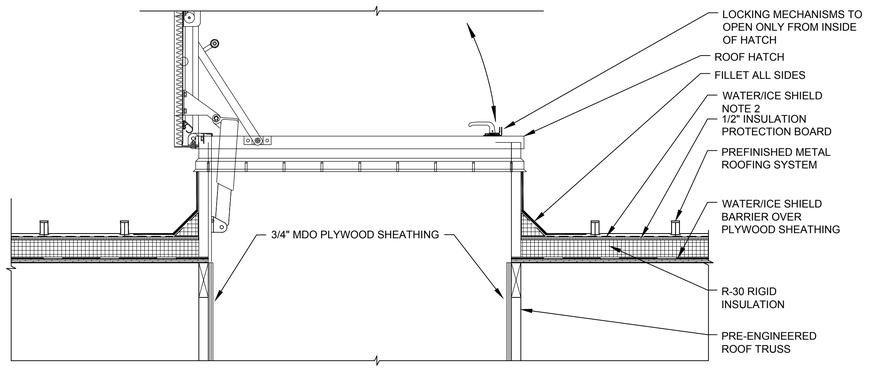


RAKE DETAIL 2

0 1

1 1/2"=1'-0"

A2

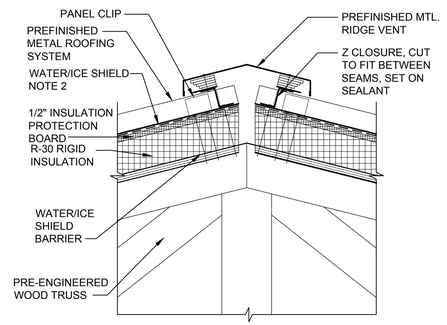


ROOF HATCH DETAIL 4

0 1

1 1/2"=1'-0"

A2



RIDGE DETAIL 3

0 1

1 1/2"=1'-0"

A4

NOTES:

1. ALL EXPOSED PLYWOOD AND WOOD TRIM TO BE PAINTED.
2. WATER/ICE SHIELD TO BE CARLISLE WIP 300 HT.
3. VENT BLOCKING WITH INSECT SCREEN, CONTINUOUS BETWEEN TRUSSES AT BOTH EAVES. PROVIDE MATCHING ALIGNED VENTILATION HOLES AT CEDAR TRIM."

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

4455 REGISTERED ARCHITECT MARK PRESTON STATE OF WASHINGTON

DESIGNED MP

DRAWN MP

CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION BUILDING SECTION AND DETAILS

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME 139700500-A004.DWG

JOB NO. 1397005*00

DATE NOVEMBER 2020

SHEET A4 OF

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GENERAL STRUCTURAL NOTES

GENERAL

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2015 INTERNATIONAL BUILDING CODE WITH AMENDMENTS ADOPTED INTO THE WASHINGTON STATE BUILDING CODE AND THE REFERENCED BUILDING CODE STANDARDS.
2. THESE NOTES AS WELL AS THE TYPICAL DETAILS APPLY TO ALL PARTS OF THE PROJECT, UNLESS NOTED OTHERWISE.
3. SHOP DRAWINGS FOR THIS CONTRACT SHALL BE COORDINATED WITH FAVORABLY REVIEWED EQUIPMENT MANUFACTURER'S DRAWINGS.
4. DIMENSIONS NOTED WITH AN ASTERISK, " * ", ARE TO BE COORDINATED WITH FAVORABLY REVIEWED SUBMITTAL BY THE EQUIPMENT MANUFACTURER.
5. DETAILS CALLED OUT WITH S-XXXX SHALL REFER TO THE STANDARD DETAIL FOR WHICH THEY ARE SO NAMED.

PERMITS AND INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED BY THE LOCAL BUILDING INSPECTOR.
2. THE CONTRACTOR SHALL SELECT, INSTALL AND MAINTAIN SHORING, SHEETING, BRACING AND SLOPING AS NECESSARY TO MAINTAIN SAFE EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING FULL COMPLIANCE WITH 29 CFR PART 1926 OSHA SUBPART P EXCAVATIONS AND TRENCHES REQUIREMENTS. ALL EARTHWORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE LAW, INCLUDING LOCAL ORDINANCES, WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES TITLE 296, WASHINGTON ADMINISTRATIVE CODE REQUIREMENTS, AND APPLICABLE OSHA REQUIREMENTS.

SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48-HOURS BEFORE PLACEMENT OF REINFORCING STEEL AND CONCRETE SO THAT THE SUBGRADE OF EXCAVATIONS MAY BE INSPECTED BY THE GEOTECHNICAL ENGINEER.
2. THE GEOTECHNICAL ENGINEER SHALL VERIFY BACKFILL MATERIAL AND BACKFILLING PROCEDURES AND PROVIDE SOIL COMPACTION TESTS.
3. STRUCTURAL OBSERVATION SHALL BE PROVIDED BY THE DESIGN ENGINEER(S) OF RECORD OR THEIR AUTHORIZED REPRESENTATIVES IN ACCORDANCE WITH IBC 2018, SECTION 1710. STRUCTURAL OBSERVATION SHALL CONSIST OF SITE VISITS AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO OBSERVE CONSTRUCTION IN PROGRESS AND REVIEW OF TESTING AND INSPECTION REPORTS FOR GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS RELATING TO THE STRUCTURAL WORK AND THE NONSTRUCTURAL COMPONENTS AND EQUIPMENT ANCHORAGE.
4. SPECIAL INSPECTION IN ACCORDANCE WITH IBC 2018, SECTION 1704, SHALL BE REQUIRED AS INDICATED IN THE SPECIAL INSPECTION AND TESTING SCHEDULE ON THIS SHEET.

SOIL AND FOUNDATIONS

1. GEOTECHNICAL INVESTIGATIONS FOR DESIGN PURPOSES FOR THIS PROJECT WERE MADE FOR CITY OF ISSAQUAH BY ICICLE CREEK ENGINEERS, INC IN A REPORT DATED 28 FEBRUARY 2017 AND REPORT ADDENDUMS DATED 11 OCTOBER 2019 AND 22 JANUARY 2021.
2. IN ACCORDANCE WITH THE IBC CHAPTER 18 THE SOILS IN ISSAQUAH, WA ARE GENERALLY CLASSIFIED SILTY SAND AND GRAVEL.
3. THE DESIGN BEARING CAPACITY OF THE SOILS IS 2,000 PSF FOR FOOTINGS. BEARING CAPACITY OF SOILS ARE FOR DEAD AND LIVE LOADS FOR FOUNDATIONS. BEARING VALUES MAY BE INCREASED BY ONE-THIRD WHEN TRANSIENT LOADS SUCH AS WIND OR SEISMIC LOADS ARE INCLUDED.
4. SOILS SHALL BE EXCAVATED TO THE ELEVATIONS INDICATED ON THE DRAWINGS FOR FOUNDATIONS. THE SUBGRADE SHALL BE PREPARED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS AND APPROVED BY THE GEOTECHNICAL ENGINEER. EXCAVATED MATERIAL SHALL BE REPLACED WITH STRUCTURAL FILL AS SHOWN ON THE DRAWINGS. FOUNDATIONS SHALL BE CONSTRUCTED AGAINST UNDISTURBED NATIVE COMPETENT MATERIAL OR COMPACTED STRUCTURAL FILL.

LOADING CRITERIA

1. MINIMUM LOADING REQUIREMENTS PER CHAPTER 16 OF THE 2015 INTERNATIONAL BUILDING CODE INCLUDING LATEST REVISION.
2. DEAD LOAD: AS CALCULATED
3. LIVE LOADS:

FLOOR - HEAVY MANUFACTURING/STORAGE	250 PSF UNIFORM, 3,000 LBS POINT
ROOF (REDUCTION FOR UNIFORM LOAD)	20 PSF UNIFORM, 2,000 LBS POINT
GRATING, CHECKERED PLATE, ACCESS HATCHES	EQUAL TO FLOOR LIVE LOAD
SIDEWALKS & VEHICULAR DRIVEWAYS	250 PSF UNIFORM, 8,000 LBS POINT AASHTO
UNRESTRICTED VEHICULAR ACCESS	HS20-44
CONCRETE VAULTS AND COVERS	AASHTO HS20-44

4. WIND LOAD:

BASIC WIND SPEED, Vult	115 MPH
EXPOSURE	C

5. SNOW LOAD:

IMPORTANCE FACTOR, I	1.2
BASIC GROUND SNOW LOAD, Pg	25 PSF
SNOW EXPOSURE COEFFICIENT, Ce	0.9
THERMAL FACTOR, Ct	1.0

6. SEISMIC LOAD:

OCCUPANCY CATEGORY	III
SEISMIC IMPORTANCE FACTOR, I	1.2
SEISMIC IMPORTANCE FACTOR, Ip	1.50
SITE CLASS	C
SITE COEFFICIENT S_S	1.304 g
SITE COEFFICIENT S_1	0.490 g
SEISMIC DESIGN RESPONSE PARAMATER S_{DS}	0.869 g
SEISMIC DESIGN RESPONSE PARAMATER S_{D1}	0.428 g
SEISMIC DESIGN CATEGORY	D
LONG PERIOD TRANSITION PERIOD, T_L	6

REINFORCING STEEL

1. REINFORCING BARS SHALL BE ASTM A615-GRADE 60.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
3. ARRANGEMENT AND DETAILING OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL.
4. REINFORCING SHALL LAP IN ACCORDANCE WITH THE CONCRETE REINFORCEMENT SPLICE TABLE, UNLESS OTHERWISE SHOWN. WHEN BARS OF DIFFERENT SIZE LAP TO EACH OTHER, SPLICE LENGTH FOR THE SMALLER BAR CAN BE USED. DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THAT OF THE REINFORCING STEEL THEY ARE SPLICED AND SHALL HAVE A MINIMUM LAP AS NOTED ABOVE. BAR SPLICES SHALL BE STAGGERED.
5. HOOK REINFORCING BARS INTERUPTED BY OPENINGS.
6. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IN WRITING IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
7. DIMENSIONS TO REINFORCING ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE BAR COVER IS CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE. UNLESS NOTED OR SHOWN OTHERWISE BAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND BASE SLABS:	
FORMED SURFACES AND BOTTOMS ON CONCRETE WORK MAT	2-INCH
TOP SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
BOTTOMS AND SIDES IN CONTACT WITH EARTH	3-INCH
SUSPENDED SLABS:	
FORMED SURFACES EXPOSED TO EARTH, WATER, OR WEATHER	2-INCH
TOP AND BOTTOM BARS DRY CONDITION	1-INCH
BEAMS AND COLUMNS:	
DRY CONDITIONS:	
STIRRUPS, SPIRALS, AND TIES	1 1/2-INCH
PRINCIPAL REINFORCEMENT	2-INCH
EXPOSED TO EARTH, WATER, OR WEATHER:	
STIRRUPS, SPIRALS, AND TIES	2-INCH
PRINCIPAL REINFORCEMENT	2 1/2-INCH
WALLS:	
LESS THAN 12-INCHES THICK	1 1/2-INCH
12 INCHES OR OVER IN THICKNESS	2 1/2-INCH

CONCRETE:

1. CEMENT SHALL BE ASTM C150 TYPE II FOR ALL STRUCTURES. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
2. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14 INCLUDING BAR BENDS AND HOOKS, UNLESS DETAILED OTHERWISE.
3. SUBMIT CONCRETE AND MASONRY LIFT DRAWINGS SHOWING THE LOCATION OF CONSTRUCTION JOINTS, WATERSTOPS AND OTHER TYPES OF JOINTS OTHER THAN SPECIFIED OR SHOWN ON THE DRAWINGS FOR FAVORABLE REVIEW BY THE ENGINEER BEFORE START OF WORK ON FORMS, REINFORCING STEEL OR PLACING CONCRETE. ANY ADDITIONAL VERTICAL OR HORIZONTAL CONSTRUCTION JOINTS SHALL HAVE A STANDARD KEYWAY AND SHALL BE FAVORABLY REVIEWED BY THE ENGINEER. REFER TO SPECIFICATIONS AND TYPICAL DETAILS FOR ADDITIONAL INFORMATION. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4-INCH AMPLITUDE.
4. OPENINGS, PIPE SLEEVES, CONDUITS, INSERTS AND OTHER EMBEDDED ITEMS SHALL BE IN PLACE BEFORE CONCRETE IS PLACED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, LANDSCAPING, HVAC, PLUMBING, INSTRUMENTATION AND OTHER PLANS FOR ITEMS REQUIRING SLEEVES AND EMBEDMENTS IN CONCRETE WHICH ARE NOT INDICATED OR SHOWN ON STRUCTURAL DRAWINGS. NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS (UNLESS SHOWN ON STRUCTURAL DRAWINGS). COORDINATE WITH EQUIPMENT MANUFACTURERS DRAWINGS FOR ANCHORING DEVICES.
5. UNLESS OTHERWISE NOTED, ALL EXPOSED EDGES AND CORNERS SHALL BE CHAMFERED 3/4-INCH. INTERIOR FLOOR SLABS AND EXTERIOR SIDEWALKS SHALL HAVE TOOLED 3/8-INCH RADIUS CONSTRUCTION JOINT.
6. EACH FACE CONCRETE SHALL BE REINFORCED A MINIMUM OF NO. 5 BARS AT 12-INCHES EACH WAY.
7. CONCRETE ENCASE ALL PIPES AND CONDUITS UNDER CONCRETE SLABS AND FOOTINGS

MASONRY:

1. SEE SHEET S5.

WOOD FRAMING:

1. FRAMING LUMBER SHALL BE DOUGLAS FIR-LARCH AND BE GRADE MARKED PER WCLIB SPECIFICATIONS:
   - A) STUDS:
     2" TO 4" THICK, 2" TO 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, STUD GRADE.
     2" TO 4" THICK, 2" AND WIDER, EXTERIOR, BEARING WALLS, NO. 1 AND BETTER GRADE.
   - B) JOISTS AND RAFTERS:
     2" TO 4" THICK, 2" TO 4" WIDE, SELECT STRUCTURAL GRADE.
     2" TO 4" THICK, 5" AND WIDER, NO. 1 AND BETTER GRADE.
   - C) BEAMS AND HEADERS:
     2" TO 4" THICK, 5" AND WIDER, NO. 1 AND BETTER GRADE.
     5" THICK AND GREATER, ALL WIDTHS, NO. 1 AND BETTER GRADE.
   - E) TOP PLATES:
     2" THICK X 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, STUD GRADE.
     2" THICK X 4" WIDE, EXTERIOR, BEARING WALLS, NO. 1 AND BETTER GRADE.
   - F) BLOCKING:
     2" TO 4" THICK, 2" AND WIDER, STUD GRADE.
   - G) SILL PLATES:
     2" THICK X 4" WIDE, INTERIOR, NON-BEARING PARTITIONS, PRESSURE TREATED STUD GRADE.
     2" TO 4" THICK, 4" AND WIDER, EXTERIOR, PRESSURE TREATED NO. 1 AND BETTER GRADE.
2. STRUCTURAL PLYWOOD SHALL BE DOUGLAS FIR CONFORMING TO COMMERCIAL STANDARDS PS 1-09 AND GRADE STAMPED NFPA. ALL ROOFS AND WALLS SHALL BE SHEATHED AND ALL UNSUPPORTED EDGES SHALL BE BLOCKED ACCORDING TO THE TYPICAL NAILING SCHEDULE:
   - B) ROOF SHEATHING:
     4'x8'x3/4" SHEETS, MARINE GRADE.
3. ALL LUMBER HARDWARE (HANGERS, FRAMING ANCHORS, STRAPS, ETC) AS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON COMPANY OF SAN LEANDRO, CALIFORNIA. APPROVED EQUAL HARDWARE MAY BE SUBSTITUTED IF FAVORABLY REVIEWED BY THE ENGINEER.
4. FASTENERS AND CONNECTORS EXPOSED TO WEATHER OR IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIP GALVANIZED.
5. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED, OR DRILLED UNLESS SPECIFICALLY SHOWN OR APPROVED BY THE ENGINEER.
6. MAXIMUM MOISTURE CONTENT OF LUMBER SHALL NOT EXCEED 19% FOR ALL FRAMING LUMBER.

STRUCTURAL ABBREVIATIONS

&	AND
@	AT
#	NUMBER
Ø	DIAMETER
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIAL
AB	AGGREGATE BASE, ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDIT	ADDITIONAL
ADJ	ADJACENT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ALUM	ALUMINUM
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICAN PLYWOOD ASSOCIATION
APROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AWS	AMERICAN WELDING SOCIETY
AWWA	AMERICAN WATER WORKS ASSOCIATION
B/	BOTTOM OF
BB(S)	BEARING BAR(S)
BLKG	BLOCKING
BLDG	BUILDING
BM	BEAM
BM-1	BEAM MEMBER 1
BN	BOUNDARY NAILING
BOT	BOTTOM
BP	BASE PLATE
BS	BOTH SIDES
BTWN	BETWEEN
C	CHANNEL
CALC'S	CALCULATIONS
CC,C/C	CENTER-TO-CENTER
CBC	CALIFORNIA BUILDING CODE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
℄	CENTERLINE
CLR	CLEAR
CNJ	CONTROL JOINT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBL	DOUBLE
DIA	DIAMETER
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DWG(S)	DRAWINGS
(E)	EXISTING
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
EN	EDGE NAILING
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
(F)	FUTURE
FD	FLOOR DRAIN
FF	FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FN	FIELD NAILING
FNDN	FOUNDATION
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FAR SIDE
FT	FOOT/FEET
FTG	FOOTING
GA	GAGE/GAUGE
GALV	GALVANIZED
GLB	GLULAM BEAM
HDG	HOT DIP GALVANIZE(D)
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HWL	HIGH WATER LEVEL
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
IN	INCH
INT	INTERIOR
JT	JOINT
KIP	1,000 POUNDS
KSI	KIPS PER SQUARE INCH
L,∠	ANGLE
LB(S)	POUNDS
LB/SF	POUND(S) PER SQUARE FOOT
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LLBB	LONG LEG BACK-TO-BACK
LONGIT	LONGITUDINAL
LT	LIGHT
LW	LIGHT WEIGHT
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MOISTURE CONTENT
MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
N/A	NOT APPLICABLE
(N)	NEW
NDT	NON-DESTRUCTIVE TEST(ING)
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTACT
NO.	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NSG	NON-SHRINK GROUT
NTS	NOT TO SCALE
OC	ON CENTERS
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND, OVERHEAD
OPNG(S)	OPENING(S)
OPP	OPPOSITE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ASSOCIATION
PAF	POWDER/POWER ACTUATED FASTENER
PER	PERIODIC
PL	PLATE
PLF	POUND PER LINEAL FOOT
PP	PARTIAL PENETRATION
PSF	POUND PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
PT(S)	POINT(S)
PT	PRESSURE TREATED
R, RAD	RADIUS
RECT	RECTANGLE, RECTANGULAR
REINF	REINFORCING, -MENT
REQ'D	REQUIRED
SCH	SCHEDULE
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SLBB	SHORT LEGS BACK-TO-BACK
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SMS	SHEET METAL SCREW
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
SSD	SATURATED SURFACE DRY
STAG	STAGGER
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUC	STRUCTURE
SUSP	SUSPENDED
SYM	SYMMETRICAL
T/	TOP OF
T&B	TOP AND BOTTOM
TS	STRUCTURAL TUBING
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UT	ULTRASONIC TESTING
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
W, WF	WIDE FLANGE
WCLIB	WEST COAST LUMBER INSPECTION BUREAU
WP	WORK POINT
WT	WEIGHT, STRUCTURAL TEE WALL THICKNESS
WWF	WELDED WIRE FABRIC
YD	YARD

NO.	REVISION	DATE	BY
####	####	####	####

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 55904 REGISTERED PROFESSIONAL ENGINEER

DESIGNED STP
DRAWN STP
CHECKED JDS

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

FILE NAME 139700500-S001.DWG
JOB NO. 1397005*00
DATE FEBRUARY 2021
SHEET S1 OF

SPECIAL INSPECTIONS AND TESTS - GENERAL

1. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE AND WASHINGTON ADMINISTRATIVE CODE DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. STRUCTURAL SPECIAL INSPECTIONS AND TESTS SHALL GOVERN THE QUALITY, WORKMANSHIP AND REQUIREMENTS FOR MATERIALS COVERED. MATERIALS OF CONSTRUCTION AND TESTS SHALL CONFORM TO THE APPLICABLE STANDARDS LISTED IN THE REFERENCED BUILDING CODE.

2. APPROVED AGENCY: AN ESTABLISHED AND RECOGNIZED AGENCY THAT IS REGULARLY ENGAGED IN CONDUCTING TESTS OR FURNISHING INSPECTION SERVICES, WHERE SUCH AGENCY HAS BEEN APPROVED BY THE BUILDING OFFICIAL. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY.

3. ACCESS FOR SPECIAL INSPECTION: THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS.

4. REPORT REQUIREMENT: APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.

5. SPECIAL INSPECTIONS OF FABRICATED ITEMS: WHERE FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION.

6. STATEMENT OF SPECIAL INSPECTIONS: THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS.

7. MATERIAL TESTS: IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

8. SEISMIC REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS: WHERE SPECIAL INSPECTIONS OR TESTS FOR SEISMIC RESISTANCE ARE REQUIRED, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE DESIGNATED SEISMIC SYSTEMS AND SEISMIC FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO THE SPECIAL INSPECTIONS OR TESTS.

9. DESIGNATED SEISMIC SYSTEMS: SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATION IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.

10. WIND REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS. WHERE SPECIAL INSPECTION FOR WIND RESISTANCE ARE REQUIRED, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE MAIN WINDFORCE-RESISTING SYSTEMS AND WIND-RESISTING COMPONENTS THAT ARE SUBJECT TO SPECIAL INSPECTIONS.

11. WIND-RESISTING COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR FASTENING OF THE FOLLOWING SYSTEMS AND COMPONENTS:

    ROOF COVERING, ROOF DECK AND ROOF FRAMING CONNECTIONS.

    EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.

12. CONTRACTOR RESPONSIBILITY: CORRECT DISCREPANCIES IDENTIFIED IN THE SPECIAL INSPECTIONS AND TESTS WHERE WORK WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.

SOIL & FOUNDATIONS

1. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING TABLES. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.

CONCRETE

1. SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING TABLES.
   1.1. WELDING OF REINFORCING BARS: SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.

MASONRY

1. SPECIAL INSPECTIONS AND TESTS OF MASONRY CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE PROGRAM REQUIREMENTS OF TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6.

NON-STRUCTURAL

1. PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE REQUIRED FOR THE FOLLOWING:

    ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY AND STANDBY POWER SYSTEMS IN STRUCTURES.

    ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT IN STRUCTURES.

    INSTALLATION AND ANCHORAGE OF PIPING SYSTEMS DESIGNED TO CARRY HAZARDOUS MATERIALS AND THEIR ASSOCIATED MECHANICAL UNITS IN STRUCTURES.

    INSTALLATION AND ANCHORAGE OF DUCTWORK DESIGNED TO CARRY HAZARDOUS MATERIALS IN STRUCTURES.

    INSTALLATION AND ANCHORAGE OF VIBRATION ISOLATION SYSTEMS IN STRUCTURES WHERE THE APPROVED CONSTRUCTION DOCUMENTS REQUIRE A NOMINAL CLEARANCE OF 1/4 INCH OR LESS BETWEEN THE EQUIPMENT SUPPORT FRAME AND RESTRAINT.

2. ARCHITECTURAL COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND INTERIOR AND EXTERIOR VENEER IN STRUCTURES.

STRUCTURAL OBSERVATIONS

1. STRUCTURAL OBSERVATIONS: THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE AND WIND REQUIREMENTS.

2. STRUCTURAL OBSERVATIONS SHALL BE PROVIDED AT THE FOLLOWING EXTENT AND FREQUENCY:
   2.1. AFTER FOUNDATION REINFORCING HAS BEEN PLACED BUT BEFORE CONCRETE HAS BEEN PLACED.
   2.2. AFTER WALL REINFORCING HAS BEEN PLACED BUT BEFORE GROUT HAS BEEN PLACED.
   2.3. AFTER ROOF STRUCTURE HAS BEEN INSTALLED BUT PRIOR TO INSTALLATION OF ARCHITECTURAL COMPONENTS THAT INHIBIT THE OBSERVER'S ABILITY TO EASILY OBSERVE ROOF CONNECTIONS.

CONCRETE					
REQUIRED SPECIAL INSPECTIONS AND TESTS					
SPECIAL INSPECTION REQUIRED	TYPE	CONT	PERIODIC	REFERENCED STANDARD	IBC REF
YES	1. INSPECT REINFORCEMENT, INCLUDING PRE-STRESSING TENDONS, AND VERIFY PLACEMENT.	--	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1 - 26.6.3	1908.4
YES	2. REINFORCING BAR WELDING:				
YES	a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	--	X	AWS D1.4, ACI 318 26.6.4	--
YES	b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16".	--	X		
YES	c. INSPECT ALL OTHER WELDS.	X	--		
YES	3. INSPECT ANCHORS CAST IN CONCRETE.	--	X	ACI 318 17.8.2	--
YES	4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.				
YES	a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	--	ACI 318 17.8.2.4	--
YES	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	--	X	ACI 318 17.8.2	
YES	5. VERIFY USE OF REQUIRED DESIGN MIX.	--	X	ACI 318 Ch. 19, 26.4.3, 26.4.4	1904.1 1904.2 1908.2 1908.3
YES	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	--	ASTM C172, ASTM C31, ACI 318 26.4, 26.12	1908.10
YES	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	--	ACI 318 26.5	1908.6, 1908.7, 1908.8
YES	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	--	X	ACI 318 26.5.3 - 26.5.5	1908.9
YES	9. INSPECT PRESTRESSED CONCRETE FOR:				
YES	a. APPLICATION OF PRE-STRESSING FORCES.	X	--	ACI 318 26.10	--
YES	b. GROUTING OF BONDED PRE-STRESSING TENDONS.	X	--		
YES	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	--	X	ACI 318 26.8	--
YES	11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	--	X	ACI 318 26.11.2	--
YES	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED,	--	X	ACI 318 26.11.1.2(b)	--

GOVERNING CODES	
CONCRETE	ACI 318-14
GENERAL	IBC 2015
STEEL	ANSI/AISC 360-10
MASONRY	ACI 530-13
WELDING	AWS D1.1-10

MASONRY CONSTRUCTION					
LEVEL B QUALITY ASSURANCE MINIMUM TESTS					
YES	VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT				
YES	VERIFICATION OF f'm AND f'AAC IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE				
MINIMUM INSPECTIONS					
SPECIAL INSPECTION REQUIRED	INSPECTION TASK	CONT	PERIODIC	TMS 402/ ACI 530/ ASCE 5	TMS 602/ ACI 530.1/ ASCE 6
YES	1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	--	X	--	Art. 1.5
	2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
YES	a. PROPORTIONS OF SITE-PREPARED MORTAR	--	X	--	Art. 2.1, 2.6 A
YES	b. CONSTRUCTION OF MORTAR JOINTS	--	X	--	Art. 3.3 B
YES	c. GRADE AND SIZE OF PRE-STRESSING TENDONS AND ANCHORAGES	--	X	--	Art. 2.4 B, 2.4 H
YES	d. LOCATION OF REINFORCEMENT, CONNECTORS, PRE-STRESSING TENDONS AND ANCHORAGES	--	X	--	Art. 3.4, 3.6 A
YES	e. PRE-STRESSING TECHNIQUE	--	X	--	Art. 3.6 B
YES	f. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X	X	--	Art. 2.1 C
	3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
YES	a. GROUT SPACE	--	X	--	Art. 3.2 D, 3.2 F
YES	b. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRE-STRESSING TENDONS AND ANCHORAGES	--	X	Sec. 6.1	Art. 2.4, 3.4
YES	c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRE-STRESSING TENDONS AND ANCHORAGES	--	X	Sec. 6.1, 6.2.1, 6.2.6, 6.2.7	Art. 3.2 E, 3.4, 3.6 A
YES	d. PROPORTIONS OF SITE-PREPARED GROUT AND PRE-STRESSING GROUT FOR BONDED TENDONS	--	X	--	Art. 2.6 B, 2.4 G.1.b
YES	e. CONSTRUCTION OF MORTAR JOINTS.	--	X	--	Art. 3.3 B
	4. VERIFY DURING CONSTRUCTION:				
YES	a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	--	X	--	Art. 3.3 F
YES	b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	--	X	Sec. 1.2.1(e), 6.1.4.3, 6.2.1	--
YES	c. WELDING OF REINFORCEMENT	X	--	Sec. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	--
YES	d. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	--	X	--	Art. 1.8 C, 1.8 D
YES	e. APPLICATION AND MEASUREMENT OF PRE-STRESSING FORCE	X	--	--	Art. 3.6 B
YES	f. PLACEMENT OF GROUT AND PRE-STRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	--	--	Art. 3.5, 3.6 C
YES	g. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X	X	--	Art. 3.3 B.9, 3.3 F.1.b
YES	5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	--	X	--	Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

SOILS			
REQUIRED SPECIAL INSPECTIONS AND TESTS			
SPECIAL INSPECTION REQUIRED	TYPE	CONT	PERIODIC
YES	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	--	X
YES	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	--	X
YES	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	--	X
YES	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	--
YES	5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	--	X

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 55904 — REGISTERED — PROFESSIONAL ENGINEER

DESIGNED STP
DRAWN STP
CHECKED JDS

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STRUCTURAL
SPECIAL INSPECTION AND TESTING

FILE NAME 139700500-S002.DWG
JOB NO. 1397005*00
DATE FEBRUARY 2021
SHEET S2 OF

SPLICE LENGTH FOR REINFORCING BARS IN WALLS & SLABS (INCHES)[1,2,3,5]

BAR SIZE		CONC COVER=1.00 IN.		CONC COVER=1.50 IN.		CONC COVER=2.00 IN.	
SOFT METRIC	INCH POUND	TOP[4]	OTHER	TOP [4]	OTHER	TOP [4]	OTHER
#10	#3	17	16	17	16	17	16
#13	#4	23	17	23	17	23	17
#16	#5	33	26	28	22	28	22
#19	#6	46	35	34	26	34	26
#22	#7	74	57	55	43	49	38
#25	#8	93	72	70	54	56	43
#29	#9	113	87	86	66	69	53
#32	#10	137	106	105	81	85	66
#36	#11	162	125	125	97	102	79

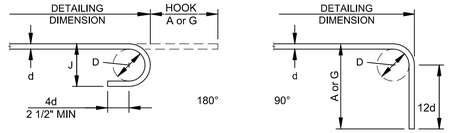
NOTES:
1. LAP SPLICE LENGTHS ARE DEPENDENT ON THE FOLLOWING CRITERIA AND ARE IN CONFORMANCE WITH ACI 318-14. NOTIFY THE DESIGN ENGINEER IF THERE ARE ANY DIFFERENCES THAN THE FOLLOWING CRITERIA FOR APPLICABLE CHANGES IN LAP SPLICE LENGTH.
2. LAP SPLICE LENGTHS ARE IN INCHES FOR GRADE 60 REINFORCING IN NORMAL-WEIGHT CONCRETE WITH f'c GREATER THAN OR EQUAL TO 3,000 PSI.
3. CENTER-TO-CENTER SPACING OF REINFORCING SHALL BE GREATER THAN TWICE THE CONCRETE COVER PLUS ONE BAR DIAMETER.
4. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW BARS.
5. FOR EPOXY-COATED REINFORCING OR LIGHTWEIGHT AGGREGATE CONCRETE CONSULT THE DESIGN ENGINEER FOR LAP SPLICE LENGTHS.

CONCRETE REBAR LAP SPLICE — S-3010
SCALE: 1'-0" = 1'-0"
REV 00

D = FINISHED INSIDE BEND DIAMETER (INCLUDES SPRINGBACK)

d = BAR DIAMETER

ACI 318-14 MIN BEND DIAMETER:
6d FOR #3 THROUGH #8
8d FOR #9, #10 & #11
10d FOR #14 AND #18

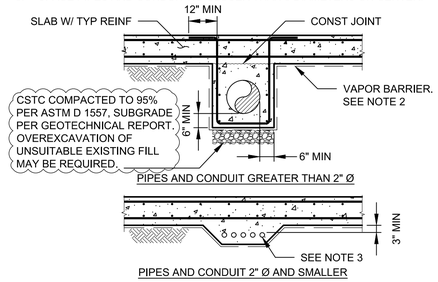


RECOMMENDED END HOOK DIMENSIONS

BAR SIZE	D	180 ° HOOKS		90° HOOKS
		A or G	J	A or G
#3	0'-2 1/4"	0'-5"	0'-3"	0'-6"
#4	0'-3"	0'-6"	0'-4"	0'-8"
#5	0'-3 3/4"	0'-7"	0'-5"	0'-10"
#6	0'-4 1/2"	0'-8"	0'-6"	1'-0"
#7	0'-5 1/4"	0'-10"	0'-7"	1'-2"
#8	0'-6"	0'-11"	0'-8"	1'-4"
#9	0'-9 1/2"	1'-3"	0'-11 3/4"	1'-7"
#10	0'-10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	1'-0"	1'-7"	1'-2 3/4"	2'-0"

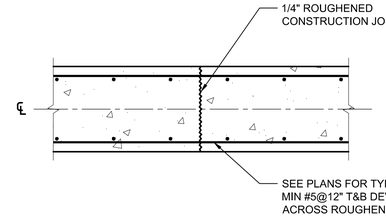
REINFORCING HOOKS — S-3020
SCALE: NTS
REV 00

NOTES:
1. ENCASEMENT REINFORCING SHALL BE #4@12" UON. PROVIDE A MINIMUM 3 INCHES CLEAR COVER.
2. WHERE VAPOR BARRIER IS SHOWN IN PLANS OR SECTIONS THE VAPOR BARRIER SHALL BE PLACED CONTINUOUSLY UNDER SLAB AND ENCASEMENT.
3. SPACE PIPES AND CONDUIT NO CLOSER THAN 3 DIAMETERS ON CENTER.



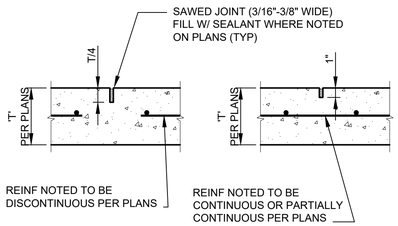
PIPE AND CONDUIT ENCASEMENT — S-3030
SCALE: 3/8" = 1'-0"
REV 00

NOTES:
1. CLEAN AND ROUGHEN THE ENTIRE SURFACE OF THE JOINT EXPOSING CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN THE CEMENT MATRIX.
2. PROVIDE TYPICALLY 1/4" ROUGHNESS OR AMPLITUDE TO THE SURFACE MEASURED FROM THE TOP OF THE EXPOSED AGGREGATE TO THE BOTTOM OF THE POCKETS BETWEEN AGGREGATE.
3. SEE SPECIFICATIONS FOR ADDITIONAL TREATMENT WITH EPOXY BONDING AGENT WHEN REQUIRED BY THE ENGINEER .

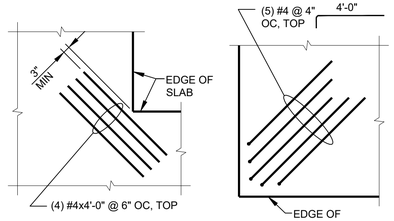


CONSTRUCTION JOINT — S-3111
ROUGHENED
SCALE: 3/4" = 1'-0"
REV 00

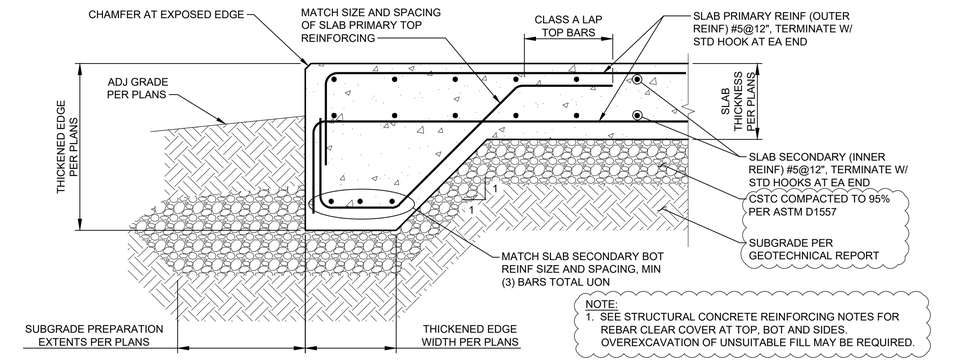
NOTES:
1. JOINT FORMED WITH TOOL OR INSERT STRIP MAY BE SUBSTITUTED FOR SAWED TYPE WITH PRIOR ACCEPTANCE BY THE ENGINEER.
2. SAWED JOINT MUST BE CONSTRUCTED WITHIN 12 HOURS OF CONCRETE PLACEMENT.
3. THIS DETAIL DOES NOT APPLY TO SUSPENDED SLABS OR LIQUID CONTAINING BASINS UNLESS SPECIFICALLY NOTED.



CONTROL JOINT — S-3170
SCALE: 1-1/2" = 1'-0"
REV 00



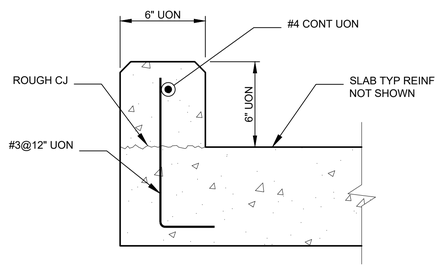
ADDITIONAL REINF AT SLAB CORNERS — S-3180
SCALE: 1" = 1'-0"
REV 00



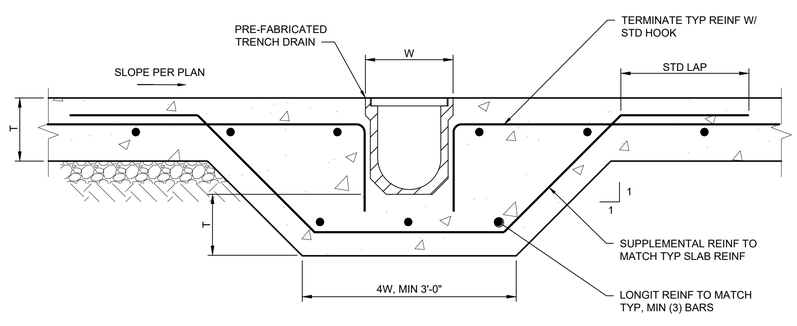
NOTE:
1. SEE STRUCTURAL CONCRETE REINFORCING NOTES FOR REBAR CLEAR COVER AT TOP, BOT AND SIDES. OVEREXCAVATION OF UNSUITABLE FILL MAY BE REQUIRED.

BUILDING FOUNDATION — S-3211
W/ THICKENED EDGE
SCALE: 1" = 1'-0"
REV 00

NOTES:
1. SEE PLANS FOR CURB LOCATION AND DIMENSIONS.

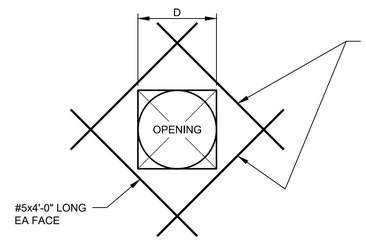


CURB — S-3320
SCALE: 1-1/2" = 1'-0"
REV 00



PREFAB TRENCH DRAIN — S-3351
SLAB W/ SINGLE MAT REINF
SCALE: 1" = 1'-0"
REV 00

NOTES:
1. THIS DETAIL IS REQUIRED UNLESS ADDITIONAL REINFORCEMENT SPECIFICALLY INDICATED AT OPENINGS ON DRAWINGS OR IF THE WALL/SLAB IS A PRESSURE WALL.



ONE EXTRA BAR EACH CORNER PER LAYER OF REGULAR REINFORCING (SEE TABLE BELOW). PLACE IN SAME TRANSVERSE POSITION AS REGULAR REINFORCING.

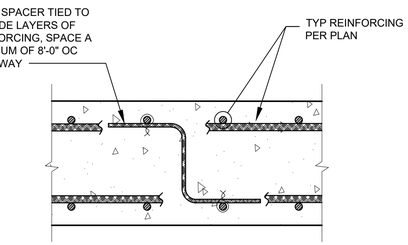
BAR LENGTH

THICKNESS OF CONCRETE	BAR SIZE	RECT OPNG	CIRCLE OPNG
<12"	4	3'-0"	D+12"
12" TO 18"	5	3'-0"	D+12"
>18"	6	3'-8"	D+12"

B = LAP SPLICE LENGTH FOR TOP BARS AS SHOWN IN CONC REINFORCEMENT SPLICE TABLE S-3010

ADDITIONAL REINFORCING AT OPENINGS - 12" < D ≤ 21" — S-3423
NON-PRESSURE WALLS AND SLABS
SCALE: 1" = 1'-0"
REV 00

NOTE:
1. FABRICATE SPACERS FROM #3 OR HEAVIER BARS.



SPACERS FOR REINF — S-3490
SCALE: 1-1/2" = 1'-0"
REV 00

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 55904 REGISTERED — PROFESSIONAL ENGINEER

DESIGNED	STP
DRAWN	STP
CHECKED	JDS

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

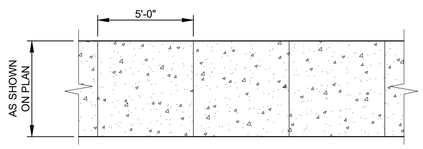
STRUCTURAL NOTES AND STANDARD DETAILS - 1

90% SUBMITTAL (REVISED 11/30/2020)

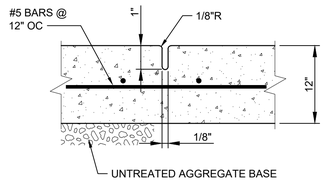
FILE NAME	139700500-S003.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	S3

\\kjk.local\KJC-Root\KJ-Office\FWY\CAD\CAD\1391397005.00_City_of_Issaquah\139700500-S003.dwg 12/10/2020 12:42 PM STEVEPRITCHETT

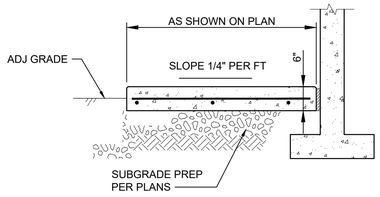
NOTES:
1. CONCRETE SIDEWALKS SHALL HAVE 1/2" EXPANSION JOINTS EVERY 30' AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 5'.
2. ALL SIDEWALKS TO BE 12" THICKNESS WITH #5 REINFORCING BARS AT 12" OC BOTH WAYS UON ON PLAN.



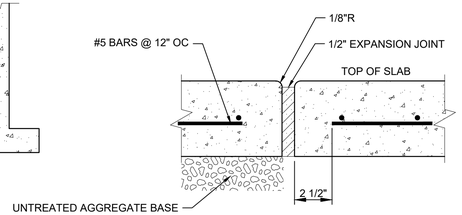
PLAN



WEAKENED PLANE JOINT



SECTION

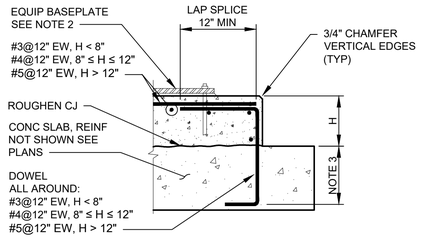


EXPANSION JOINT

EXTERIOR WALKWAY — S-3332

THIN — SCALE: NTS — REV 00

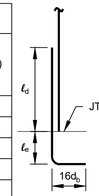
NOTES:
1. PLACE ALL EQUIPMENT ON CONCRETE PADS (UON).
2. SEPARATE ALL STEEL SURFACES BEARING ON CONC BY 1/4" (MIN) THICK GROUT LAYER.
3. INSTALL THE MAX OF STANDARD HOOK DEVELOPMENT LENGTH OR 3" LESS THAN THE SLAB THICKNESS



EQUIP PAD — S-3831

ON NEW CONC — SCALE: 1" = 1'-0" — REV 00

MASONRY REINFORCING DEVELOPMENT TABLE			
BAR SIZE	STRAIGHT (ℓ_d) REINF CENTERED IN WALL	STRAIGHT (ℓ_D) REINF NOT CENTERED	STD HOOK (ℓ_e)
#3	1'-0"	1'-2"	0'-5"
#4	1'-3"	2'-2"	0'-7"
#5	2'-0"	3'-3"	0'-9"
#6	3'-8"	4'-6"	0'-10"
#7	5'-0"	5'-3"	1'-0"
#8	6'-0"	6'-0"	1'-1"

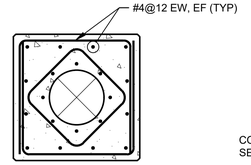


NOTES:
1. MIN DEVELOPMENT LENGTH AND LAP SPLICE FOR 8" (NOMINAL) CMU WALLS, $f'_m \geq 1500$ PSI, 60 KSI REINF, TYP REINF SPACED > 2 IN CC AND A MIN 2 IN CLEAR TO CMU OUTER FACE.
2. FOR EPOXY COATED BARS INCREASE THE DEVELOPMENT LENGTHS BY 50%.
3. d_b = BAR DIAMETER, f'_m = CMU STRENGTH

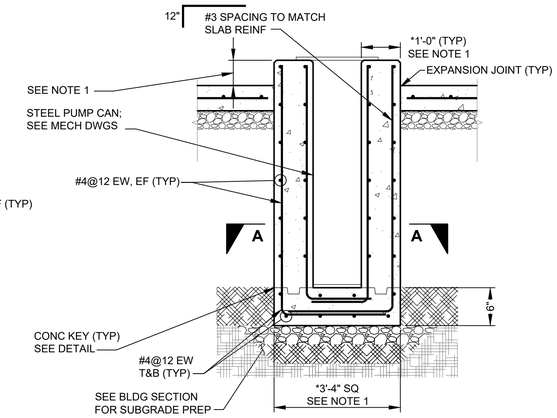
MASONRY REINFORCEMENT — S-4010

DEVELOPMENT TABLE — SCALE: NTS — REV 00

NOTES:
1. COORDINATE PUMP CAN DIMENSIONS WITH MECHANICAL DRAWINGS AND FAVORABLY REVIEWED PUMP ANCHORAGE AND EQUIPMENT SUBMITTALS.
2. COORDINATE ANCHOR TYPE, MATERIAL, FINISH, NUMBER, SIZE, SPACING, AND EDGE DISTANCE WITH REQUIREMENTS OF THE PUMP MANUFACTURER, AND REQUIREMENTS OF THE FAVORABLY REVIEWED PUMP ANCHORAGE DESIGN AND EQUIPMENT SUBMITTALS.
3. PUMP AND ANCHORS NOT SHOWN.

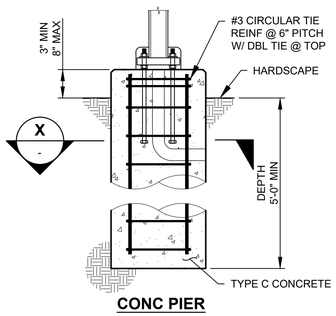


SECTION A-A



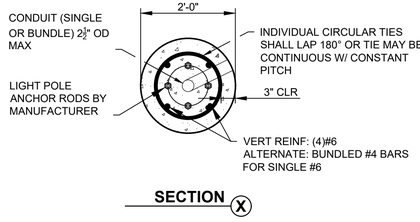
PUMP CAN — S-3999

SCALE: 1" = 1'-0" — REV 00



CONC PIER

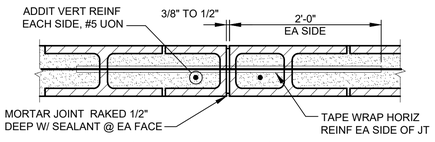
NOTE:
1. SEE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION



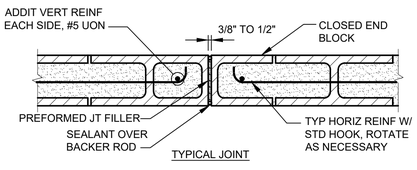
SECTION (X)

LIGHT POLE PIER — S-3771

SCALE: 3/4" = 1'-0" — REV 00



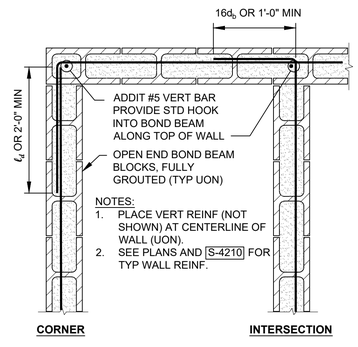
JOINT AT LEDGER, LINTEL, OR T/ WALL



TYPICAL JOINT

CMU CONTROL JOINT — S-4110

SCALE: 1" = 1'-0" — REV 00

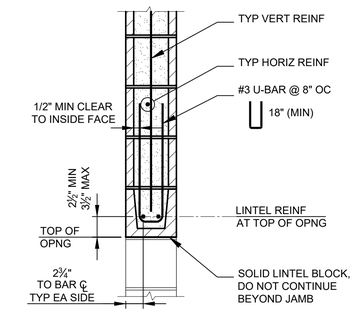


NOTES:
1. PLACE VERT REINF (NOT SHOWN) AT CENTERLINE OF WALL (UON).
2. SEE PLANS AND S-4210 FOR TYP WALL REINF.

CORNER **INTERSECTION**

TYPICAL REINF AT CMU CORNERS — S-4150

SINGLE MAT HORIZ REINF — SCALE: 3/4" = 1'-0" — REV 00



CMU LINTEL — S-4240

CENTERED VERT REINF — SCALE: 1" = 1'-0" — REV 00

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 53904 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	STP
DRAWN	STP
CHECKED	JDS

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STRUCTURAL NOTES AND STANDARD DETAILS - 2

90% SUBMITTAL (REVISED 11/30/2020)

FILE NAME	139700500-S004.DWG
JOB NO.	1397005*00
DATE	NOVEMBER 2020
SHEET	S4 OF

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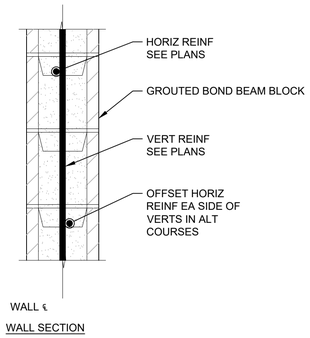
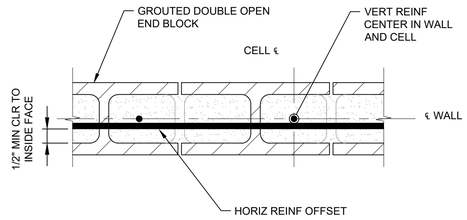
1. CONCRETE MASONRY UNITS: BLOCKS SHALL BE DOUBLE OPEN ENDED BOND BEAM (UON), HAVE A LIGHTWEIGHT CLASSIFICATION AND CONFORM TO ASTM C90. MINIMUM COMPRESSIVE STRENGTH OF UNITS OF 1,900 PSI WHEN AIR CURED FOR 28-DAYS. MINIMUM COMPRESSIVE STRENGTH OF 1,500 PSI OF MASONRY WALL ASSEMBLAGE AT 28-DAYS.
2. MORTAR: PROPORTION MORTAR TO CONFORM TO THE REQUIREMENTS OF ASTM C270 FOR TYPE S MORTAR. ANY MORTAR UNUSED WITHIN 2 HOURS OR GROUT THAT IS UNUSED WITHIN 1 1/2 HOURS AFTER INITIAL MIXING SHALL BE REMOVED FROM THE WORK.
3. GROUT: PROPORTION COARSE GROUT IN ACCORDANCE WITH ASTM C476. COMPRESSIVE STRENGTH SHALL BE TESTED IN ACCORDANCE WITH ASTM C1019. INCREASE CEMENT CONTENT OF THE GROUT, AS NECESSARY TO ACHIEVE THE SPECIFIED MASONRY ASSEMBLY STRENGTH (f'm) AND ADEQUATE WORKABILITY. GROUT SHALL HAVE A SLUMP BETWEEN 8 AND 10-INCHES AT THE TIME OF PLACEMENT. ALL CELLS SHALL BE FILLED SOLIDLY WITH GROUT. ALL GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION UNLESS SELF CONSOLIDATING GROUT HAS BEEN SPECIFICALLY APPROVED BY THE ENGINEER.
4. ADMIXTURES: ADMIXTURES ARE NOT PERMITTED IN MORTAR OR GROUT UNLESS FAVORABLY REVIEWED BY THE ENGINEER.
5. AGGREGATES: SAND FOR MORTAR SHALL CONFORM TO ASTM C144. AGGREGATE FOR GROUT SHALL CONFORM TO ASTM C404, EXCEPT WHEN OTHER GRADINGS ARE SPECIFICALLY APPROVED BY THE ENGINEER.
6. WATER USED FOR MORTAR AND GROUT SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, SALTS, ALKALI, AND ORGANIC MATERIALS.
7. REINFORCEMENT: REINFORCING SHALL BE ASTM A615-GRADE 60 UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL BE FULLY EMBEDDED IN GROUT. EMBEDDED ITEMS SHALL BE SECURED IN PLACE PRIOR TO GROUTING. PROVIDE A MINIMUM OF 1/2-INCH GROUT AROUND BOLTS IN MASONRY. VERTICAL REINFORCING SHALL BE HELD IN PLACE AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS. UTILIZE REBAR POSITIONERS TO ACHIEVE VERTICAL REINFORCING PLACEMENT. LINTEL UNITS SHALL BE USED OVER OPENINGS. MINIMUM SPLICE LENGTH SHALL EQUAL THE STRAIGHT BAR DEVELOPMENT LENGTH SHOWN IN THE TABLE BELOW.
8. BEFORE PLACING BLOCK ON CONCRETE, CLEAN AND ROUGHEN CONCRETE SO THAT AGGREGATE IS EXPOSED TO 1/4-INCH AMPLITUDE.
9. LAY ALL MASONRY WITH RUNNING BOND UNLESS OTHERWISE NOTED. CONSTRUCT ALL MASONRY TO MAINTAIN AN UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS TO BE FILLED. THE VERTICAL ALIGNMENT SHALL BE SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED VERTICAL FLUE IN ACCORDANCE WITH THE GROUT SPACE REQUIREMENTS IN TABLE 7 OF THE SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1).
10. CONSTRUCTION JOINTS: WHEN GROUTING IS STOPPED FOR A PERIOD OF 1 HOUR OR LONGER, FORM HORIZONTAL CONSTRUCTION JOINTS BY STOPPING THE GROUT POUR 1 1/2 INCHES MINIMUM BELOW THE UPPER-MOST UNIT, EXCEPT AT THE TOP OF WALLS.
11. CONTROL JOINTS: LOCATE CONTROL JOINTS AS SHOWN ON PLANS. PLACE LEDGER, LINTEL, OR TOP OF WALL BEAM REINFORCING CONTINUOUS THROUGH EXPANSION AND CONTROL JOINTS. WRAPPING BARS WITH 1/8-INCH THICK BOND BREAKING TAPE 2'-0" BOTH SIDES OF JOINT. DO NOT SPLICE BOND BEAM REINFORCING WITHIN 6'-0" OF AN EXPANSION OR CONTROL JOINT.
12. SPECIAL INSPECTION: WHERE THE BUILDING, STRUCTURE OR STRUCTURAL ELEMENT REQUIRES SPECIAL INSPECTION AS NOTED ON THE PLANS AND THE REINFORCING SCHEDULE BELOW, THE CONTRACTOR SHALL MAINTAIN ALL WORK ACCESSIBLE AND EXPOSED FOR INSPECTION IN ACCORDANCE WITH IBC CHAPTER 17.
13. REINFORCEMENT TOLERANCES: IN ACCORDANCE WITH THE SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1). UNLESS OTHERWISE NOTED VERTICAL WALL REINFORCEMENT SHALL BE PLACED AT CENTER CELL WITHIN A TOLERANCE OF ±1/2 INCH IN THE DIRECTION PERPENDICULAR TO THE WALL AND +/-1 INCH IN THE PLANE OF THE WALL.

MASONRY GENERAL NOTES — S-4020
SCALE: NTS
REV 00

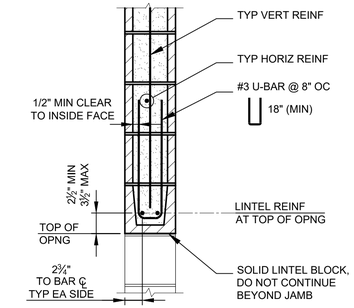


WALL SECTION

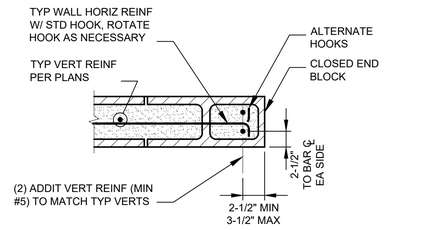


WALL PLAN

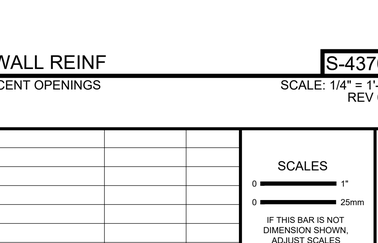
CMU WALL PLAN AND SECTION — S-4210
8" NOMINAL THICKNESS - VERT REINF CENTERED
SCALE: 1-1/2" = 1'-0"
REV 00



CMU LINTEL — S-4240
CENTERED VERT REINF
SCALE: 1" = 1'-0"
REV 00

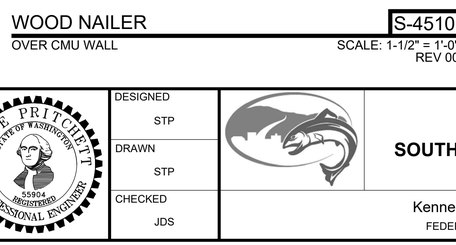


CMU JAMB OR END OF WALL — S-4250
STD REINF
SCALE: 1" = 1'-0"
REV 00



CMU JAMB OR END OF WALL — S-4251
BOUNDARY ELEMENT
SCALE: 1" = 1'-0"
REV 00

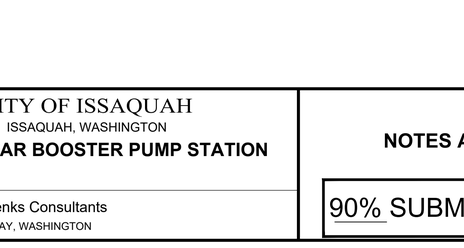
NOTES:
1. ALL TRIMMER BARS ARE #5 UON ON PLANS. TRIMMER BARS ARE IN ADDITION TO TYPICAL WALL REINF.
2. TYPICAL WALL REINF NOT SHOWN.



OPENING ELEVATION

CMU WALL OPENING — S-4330
MAX 24" WIDTH
SCALE: 1/2" = 1'-0"
REV 00

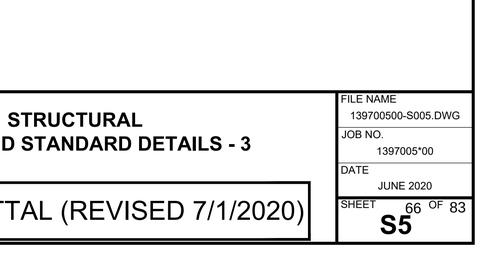
NOTES:
FOR WALL REINF, SEE PLANS AND S-4210
EXTENDED JAMB BARS ℓ_d OR 2'-0" MIN EXCEPT WHERE OPENING EXCEEDS 4'-0" IN WIDTH EXTEND FROM THE FLOOR TO ROOF



REINFORCING SCHEDULE		
OPENING WIDTH	LINTEL REINF	JAMB REINF
< 4'-0"	(2) #5	S-4250
TO 8'-0"	(2) #6	S-4251

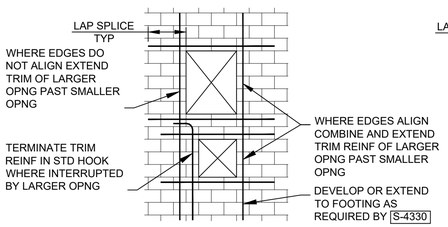
CMU ELEVATION — S-4350
PERSONNEL DOOR
SCALE: 1/4" = 1'-0"
REV 00

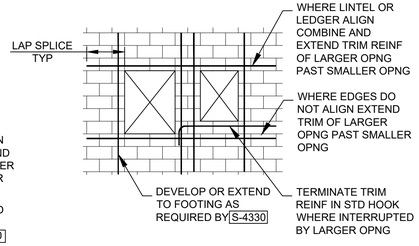
(2) #6 LINTEL REINF UON ON PLANS.
WHERE FULL ℓ_d IS NOT POSSIBLE, EXTEND BARS AS FAR AS POSSIBLE AND PROVIDE STD HOOK. DO NOT SPLICE BARS OVER OPNG. SEE S-4240



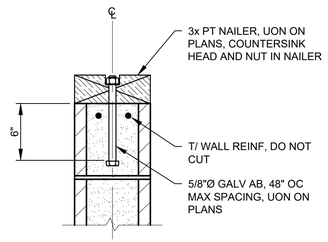
CMU ELEVATION — S-4360
ROLL-UP DOOR
SCALE: 1/4" = 1'-0"
REV 00

NOTES:
1. TYP REINF NOT SHOWN.
2. FOR REINF AT WALL OPENINGS SEE S-4330
3. FOR REINF AT PERSONNEL AND ROLL-UP DOORS SEE S-4350 & S-4360





CMU WALL REINF — S-4370
AT ADJACENT OPENINGS
SCALE: 1/4" = 1'-0"
REV 00



WOOD NAILER — S-4510
OVER CMU WALL
SCALE: 1-1/2" = 1'-0"
REV 00

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 55904 REGISTERED — PROFESSIONAL ENGINEER

DESIGNED	STP
DRAWN	STP
CHECKED	JDS

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STRUCTURAL NOTES AND STANDARD DETAILS - 3

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-S005.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	66 OF 83
	S5

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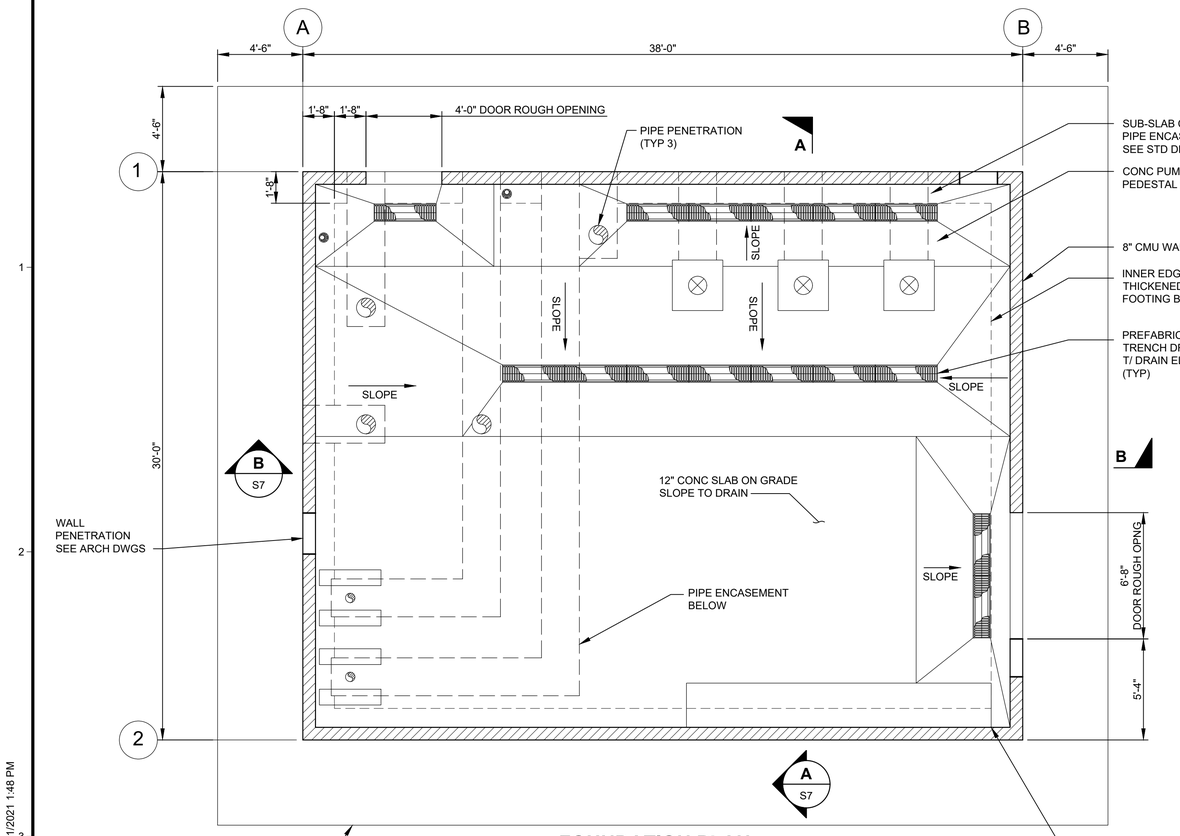
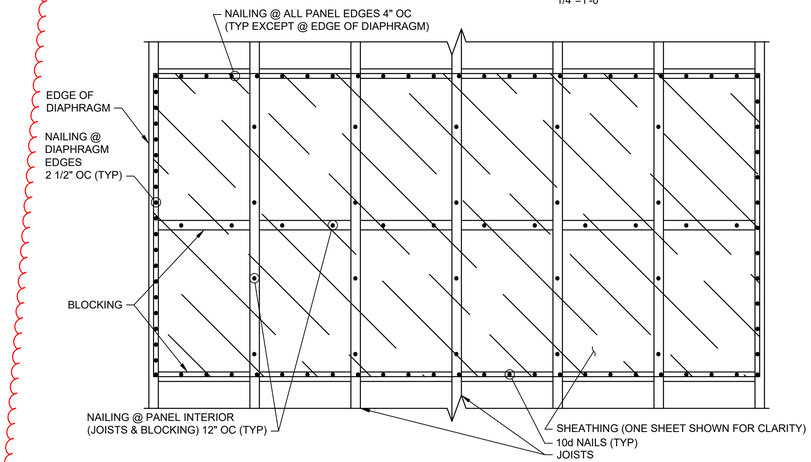


FOUNDATION PLAN

0 3 6

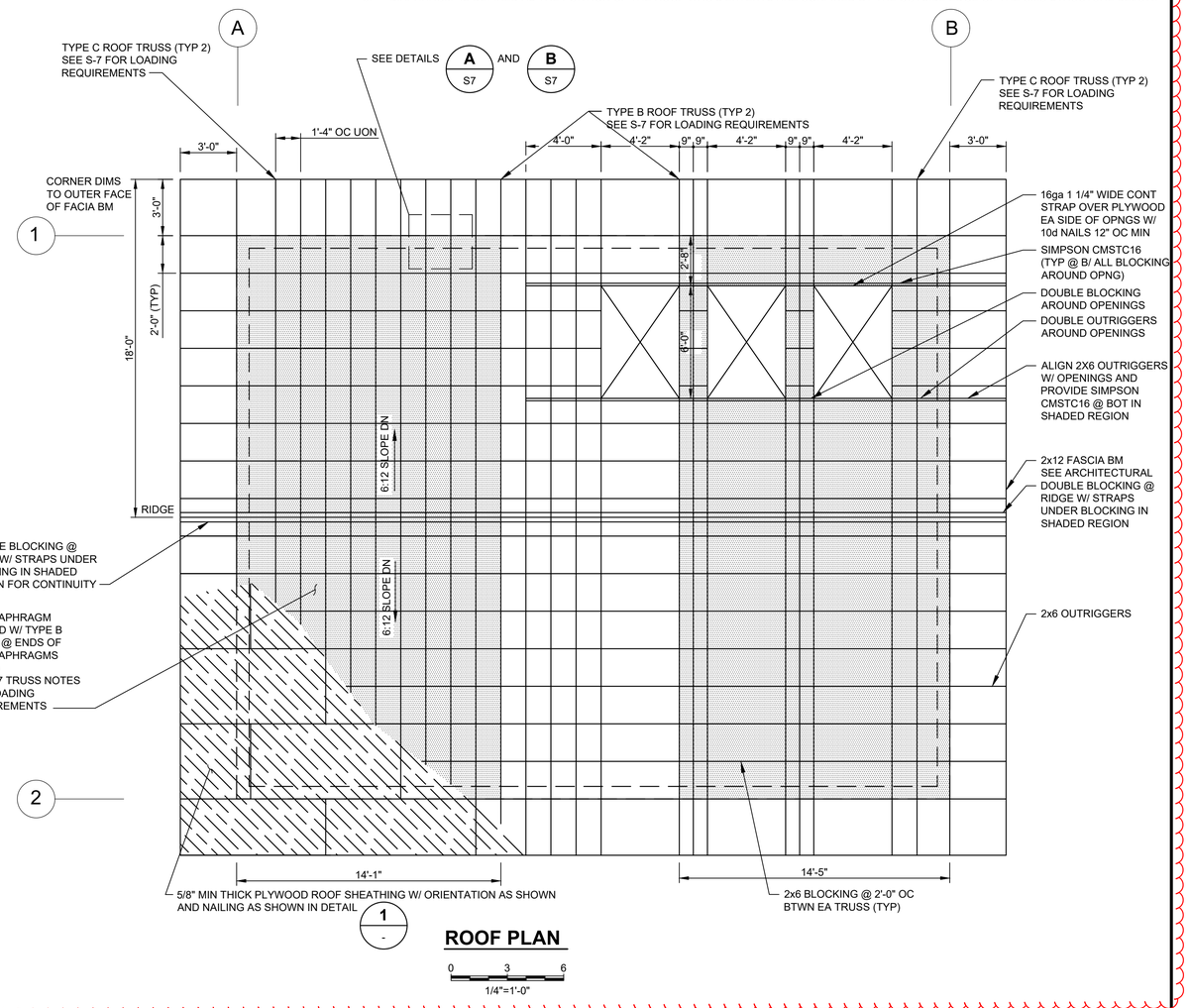
1/4"=1'-0"



DIAPHRAGM NAILING DETAIL 1

NOTES:

1. CONCRETE TO BE f'_c = 4,000psi.
2. CONCRETE FLOOR SLAB TO RECEIVE FLOAT FINISH. EXTERIOR LANDING TO RECEIVE LIGHT BROOM FINISH.
3. ALL ROOF TRUSSES SHALL BE TYPE A EXCEPT WHERE SPECIFICALLY NOTED ON THIS SHEET.
4. SIMPSON CMSTC16 SHALL BE INSTALLED ON THE UNDER-SIDE OF ALL BLOCKING IN SHADED AREA OF ROOF.
5. "DIAPHRAGM" IS DEFINED AS THE PORTION OF THE ROOF WHO'S EXTENTS ARE CONFINED BY THE OUTSIDE EDGE OF THE CMU STRUCTURE BELOW.



ROOF PLAN

0 3 6

1/4"=1'-0"

USE OF DOCUMENTS

THIS DOCUMENT, INCLUDING THE INCORPORATED DESIGNS, IS AN INSTRUMENT OF SERVICE FOR THIS PROJECT AND SHALL NOT BE USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF KENNEDY/JENKS CONSULTANTS.

NO.	REVISION	DATE	BY
####	####	####	####

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 51904 REGISTERED — PROFESSIONAL ENGINEER

DESIGNED	STP
DRAWN	STP
CHECKED	JDS

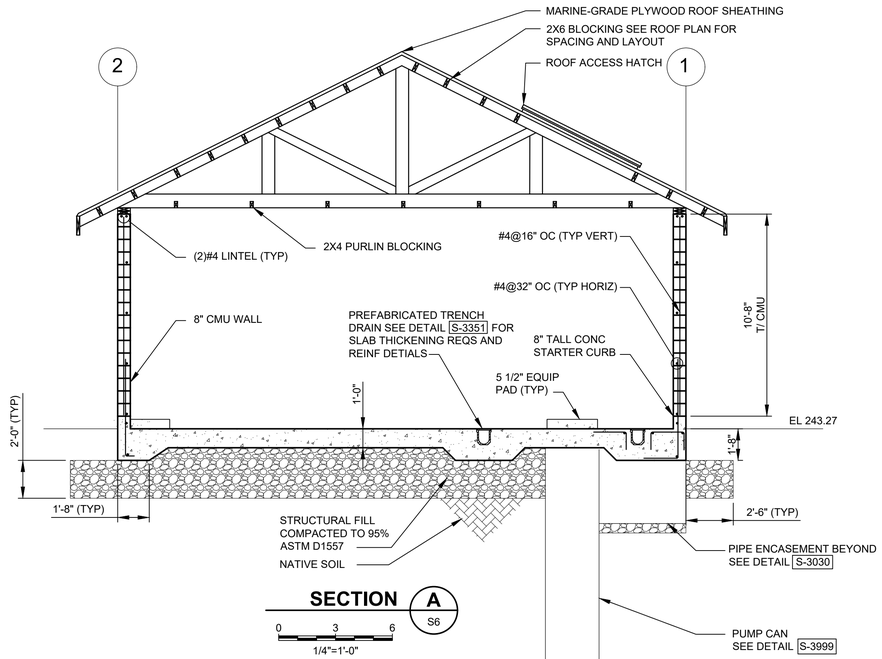
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION FOUNDATION PLAN AND ROOF PLAN

FILE NAME	139700500-S006.DWG
JOB NO.	1397005*00
DATE	FEBRUARY 2021
SHEET	S6 OF

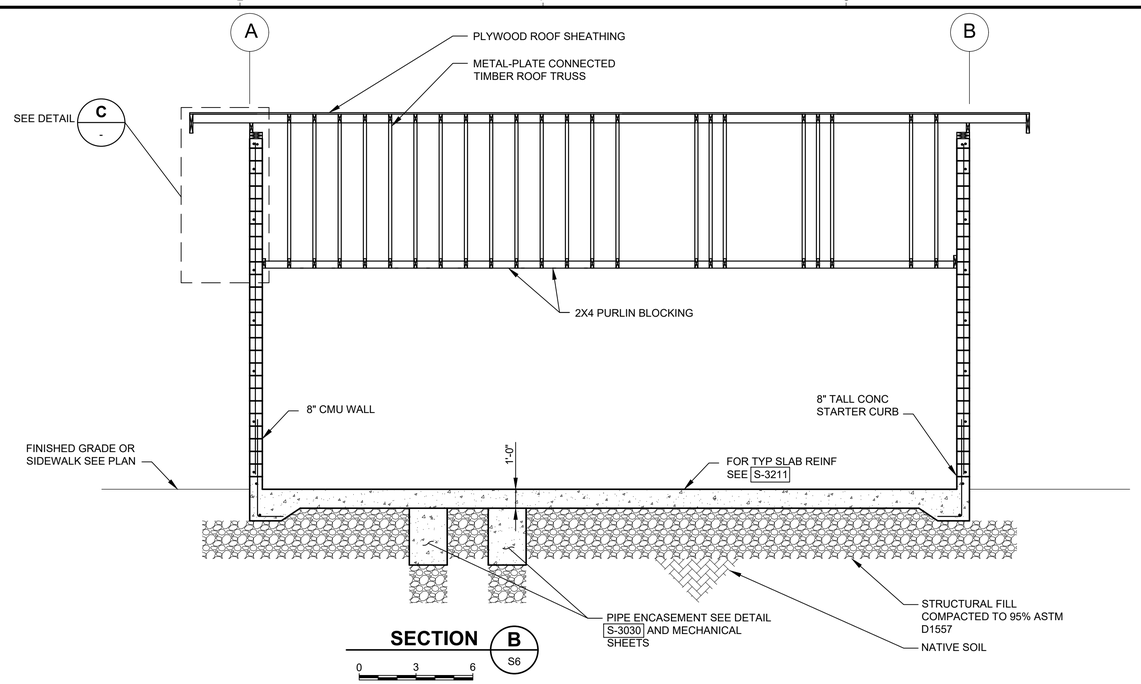
2/11/2021 1:48 PM STEVEPRITCHETT \\jcjkjc-root\KJ-Cad\FederalWay\CAD\13\1397005.00_City_of_Issaquah\139700500-S006.dwg



SECTION A S6

0 3 6

1/4"=1'-0"



SECTION B S6

0 3 6

1/4"=1'-0"

ROOF TRUSS NOTES:

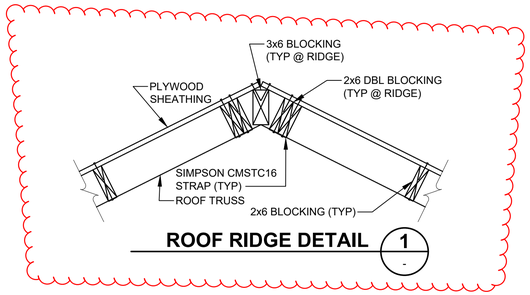
1. DESIGN ROOF TRUSSES FOR THE FOLLOWING MINIMUM UNFACTORED LOADS.

DEAD LOAD (NOT INCLUDING JOIST SELF WEIGHT)	
ON TOP CHORD	20 PSF
ON BOTTOM CHORD	5 PSF
HANGING POINT LOAD ANYWHERE	
ALONG BOTTOM CHORD	200 LB
LIVE LOAD	
HANGING POINT LOAD ANYWHERE	
ALONG BOT CHORD	500 LB
ON TOP CHORD	20 PSF
WIND LOAD: AT BASIC WIND SPEED OF 115 MPH, EXPOSURE CAT C	
NET UPLIFT/DOWNPRESSURE	-24 PSF/ 16 PSF
	TYPE C: 312 PLF ADDITIONAL DOWNWARD LOADING FROM OUTRIGGERS
SEISMIC LOAD:	TYPE A: 1,300 LBS AXIAL TENSION AND COMPRESSION @ FULL LENGTH
	TYPE B: 4,900 LBS AXIAL TENSION AND COMPRESSION @ FULL LENGTH
SNOW LOAD:	25 PSF UNIFORM
	30 PSF UNBALANCED

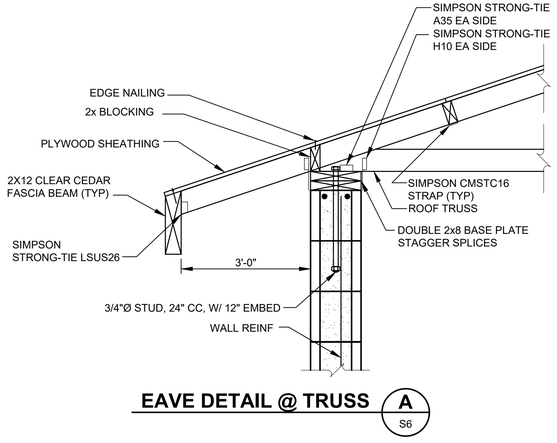
2. METAL PLATE CONNECTORS:
   a. PROVIDE METAL CONNECTOR PLATES DESIGNED AND TESTED IN ACCORDANCE WITH TRUSS PLATE INSTITUTE CRITERIA.
   b. CONNECTOR PLATES SHALL BE 20-GAUGE STEEL , ASTM A-446 GRADE C STRUCTURAL, HOT-DIP GALVANIZED, ASTM 525-G60.
   c. CODE APPROVED-ICC EVALUATION REPORT.
   d. APPLY CONNECTOR PLATES TO BOTH FACE OF TRUSS BY HYDRAULIC PRESS OR ROLLER SEAT PLATES FIRMLY AGAINST WOOD TRUSS MEMBERS.

3. FOR ALL TRUSS MEMBERS SEE WOOD FRAMING NOTES ON SHEET S1.

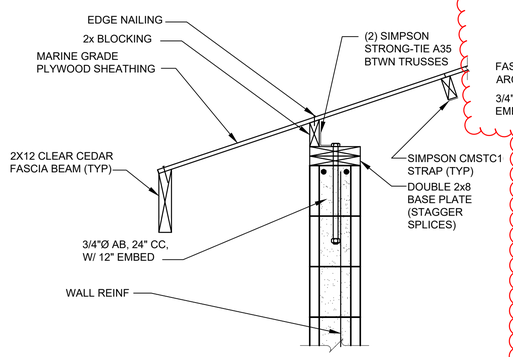
4. SUBMIT CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WASHINGTON FOR THE DESIGN OF TRUSSES. SUBMIT DRAWINGS OF TRUSSES SHOWING ALL MEMBERS, LAYOUT, DIMENSIONS, AND CONNECTIONS.



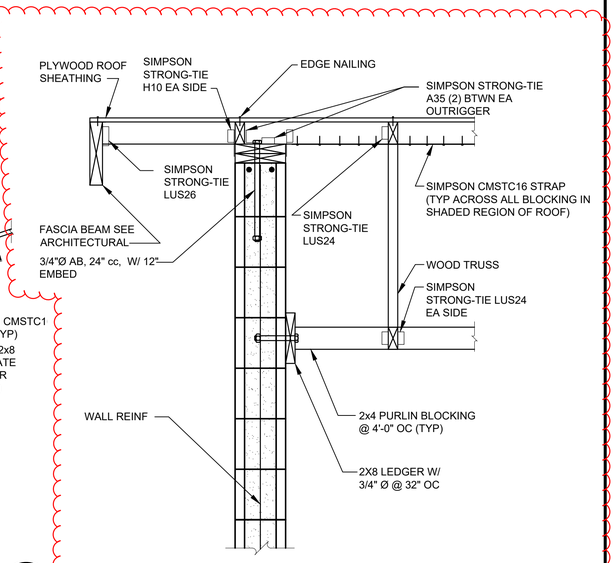
ROOF RIDGE DETAIL 1 -



EAVE DETAIL @ TRUSS A S6



EAVE DETAIL BETWEEN TRUSSES B S6



RAKE DETAIL C -

USE OF DOCUMENTS

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

STEVE PRITCHETT — STATE OF WASHINGTON — 55904 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED STP

DRAWN STP

CHECKED JDS

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

PUMP STATION SECTIONS AND DETAILS

FILE NAME 139700500-S007.DWG

JOB NO. 1397005*00

DATE FEBRUARY 2021

SHEET S7 OF

2/12/2021 10:40 AM STEVEPRITCHETT

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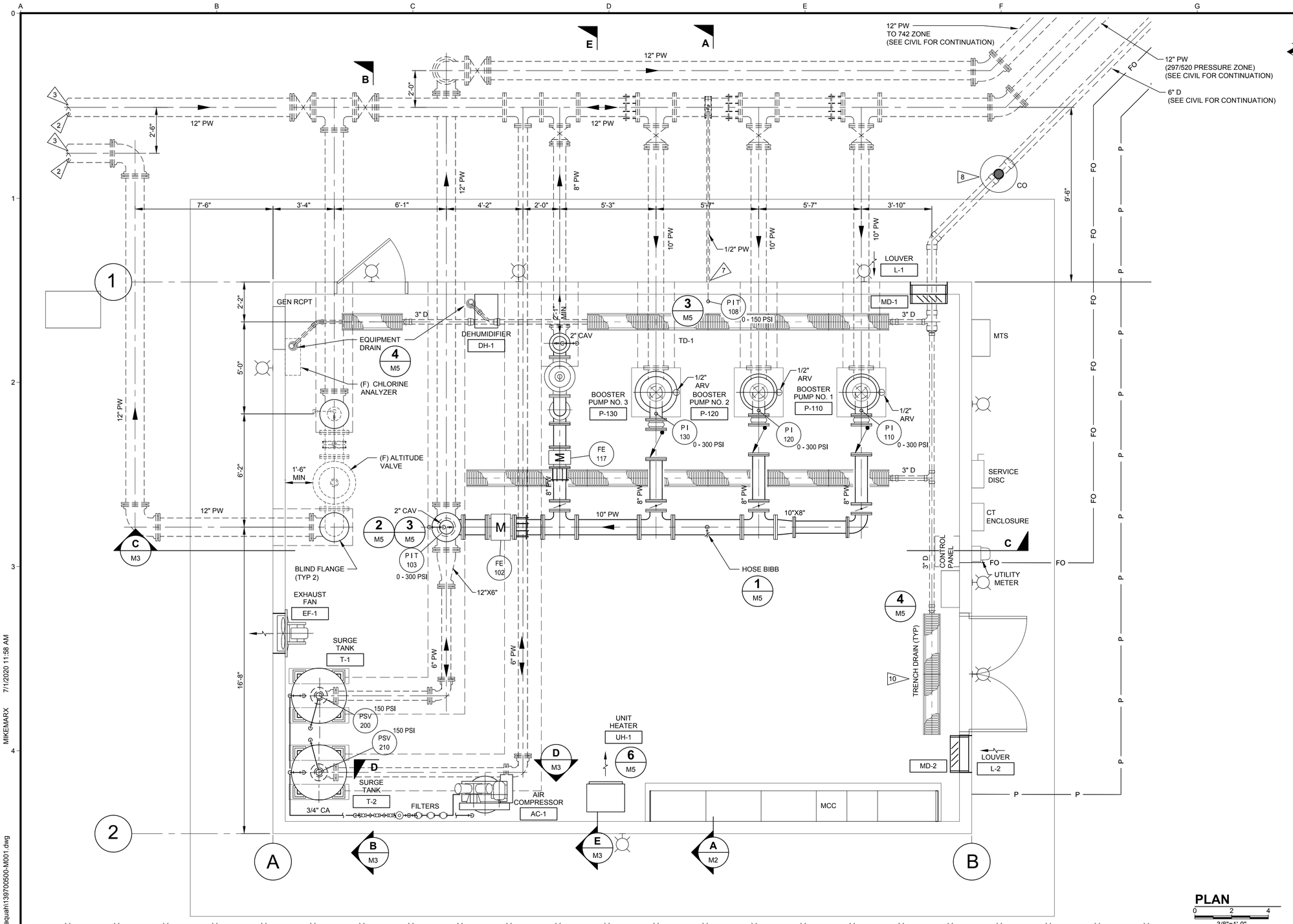


NOTES:

1. NOT ALL PIPING, VALVES AND ACCESSORIES ARE SHOWN ON THIS DRAWING. THIS DRAWING SHOWS GENERAL ARRANGEMENT AND LOCATION. PROVIDE ANY ADDITIONAL EQUIPMENT, PIPING, VALVES ACCESSORIES AS SHOWN ON ASSOCIATED PROCESS AND INSTRUMENTATION DIAGRAM.

2 > CAP FOR FUTURE EXTENSION TO RESERVOIR.

3 > INSTALL TEMPORARY BLOW-OFF ASSEMBLIES AT ENDS OF FUTURE CONNECTIONS TO RESERVOIR.

4. ALL DISCHARGE SIDE PIPING TO HAVE ANSI 250/300# FLANGES. MINIMUM WORKING PRESSURE IS 250 PSI.

5. SEE G-5 FOR PIPING SYMBOLS.

6. ENCASE ALL PIPING BELOW SLAB EXCEPT DRAIN LINE. SEE STRUCTURAL DRAWINGS.

7 > PROVIDE 2-INCH PVC SLEEVE AROUND PIPE.

8 > CLEANOUT PER CITY STANDARD DETAIL S-9.

9 > PROVIDE CAV FOR 297 / 520 ZONE PIPELINE PER CITY STANDARD DETAIL W-07.

10 > TRENCH DRAIN TO BE NDS PRO SERIES CHANNEL DESIGN WITH D.I. GRATE, 5-INCH WIDTH.

PLAN
0 2 4
3/8"=1'-0"

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	SGH
DRAWN	LMM
CHECKED	JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

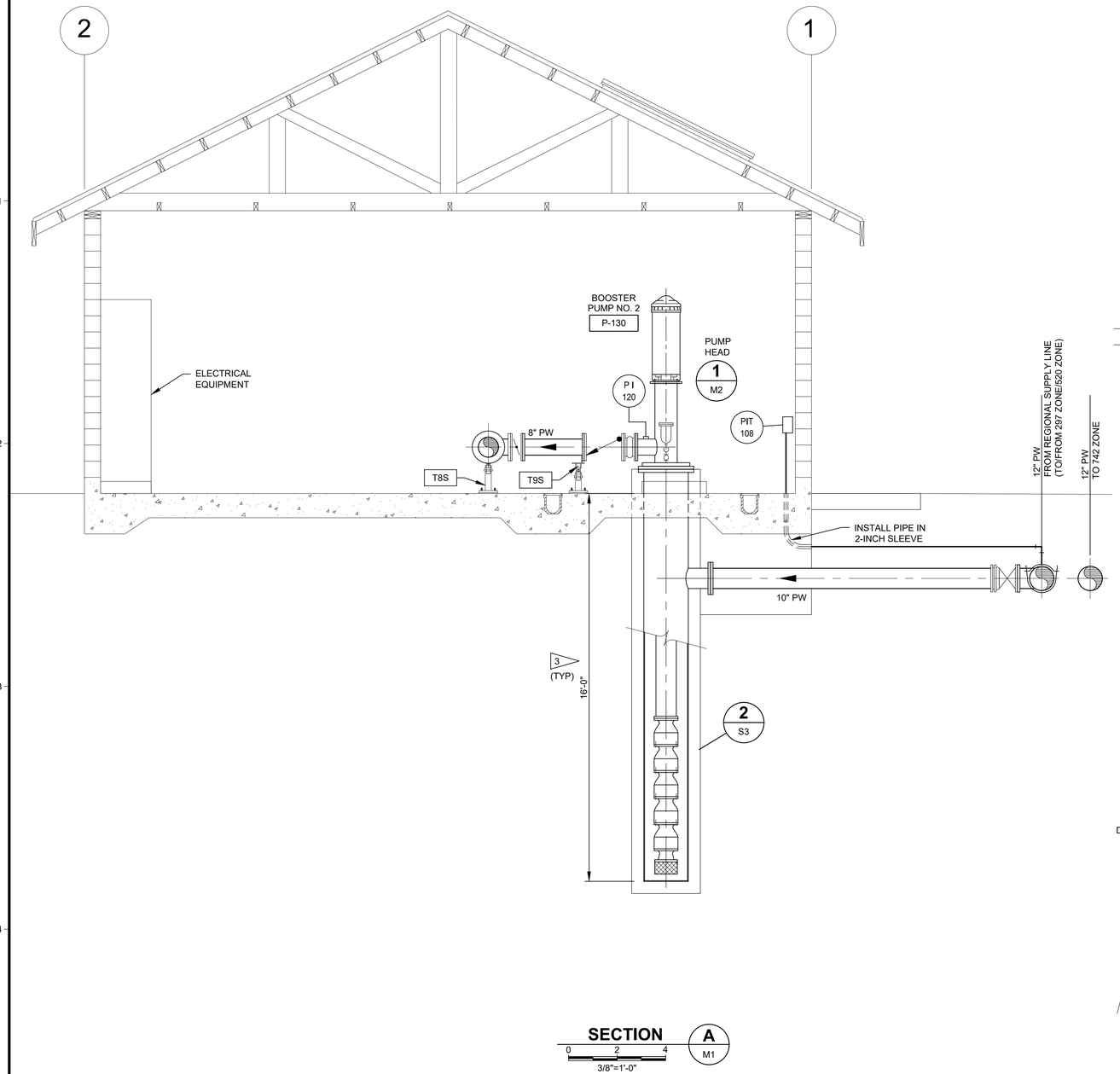
Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION PLAN

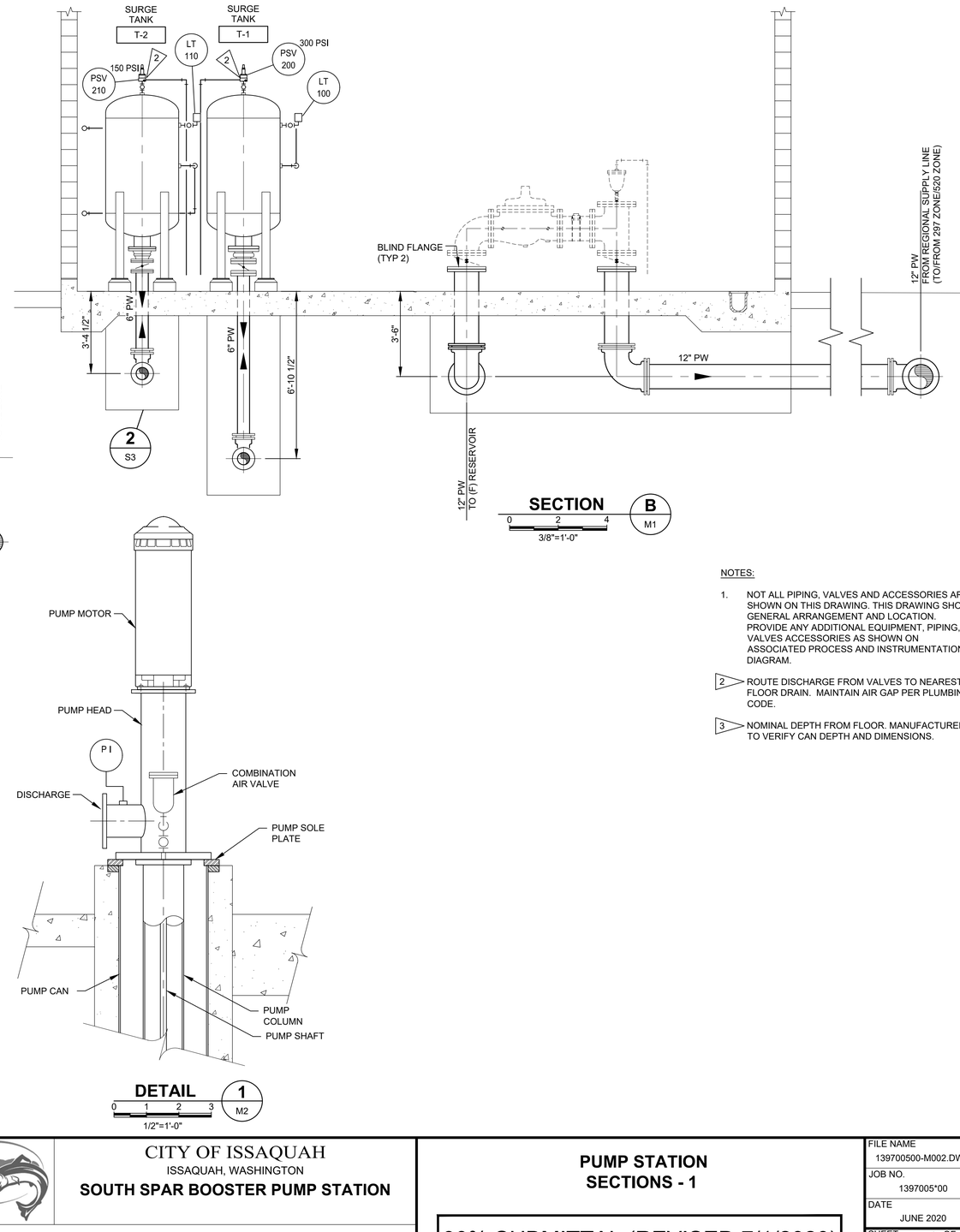
90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-M001.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	69 OF 83
	M1

P:\CAD\13\1397005.00_City_of_Issaquah\139700500-M001.dwg 7/1/2020 11:58 AM MIKEMARX



SECTION A — M1
0 2 4
3/8"=1'-0"



SECTION B — M1
0 2 4
3/8"=1'-0"

DETAIL 1 — M2
0 1 2 3
1/2"=1'-0"

NOTES:

1. NOT ALL PIPING, VALVES AND ACCESSORIES ARE SHOWN ON THIS DRAWING. THIS DRAWING SHOWS GENERAL ARRANGEMENT AND LOCATION. PROVIDE ANY ADDITIONAL EQUIPMENT, PIPING, VALVES ACCESSORIES AS SHOWN ON ASSOCIATED PROCESS AND INSTRUMENTATION DIAGRAM.

2 > ROUTE DISCHARGE FROM VALVES TO NEAREST FLOOR DRAIN. MAINTAIN AIR GAP PER PLUMBING CODE.

3 > NOMINAL DEPTH FROM FLOOR. MANUFACTURER TO VERIFY CAN DEPTH AND DIMENSIONS.

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY — STATE OF WASHINGTON — 24536 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH
DRAWN LMM
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION SECTIONS - 1

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-M002.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 70 OF 83
M2

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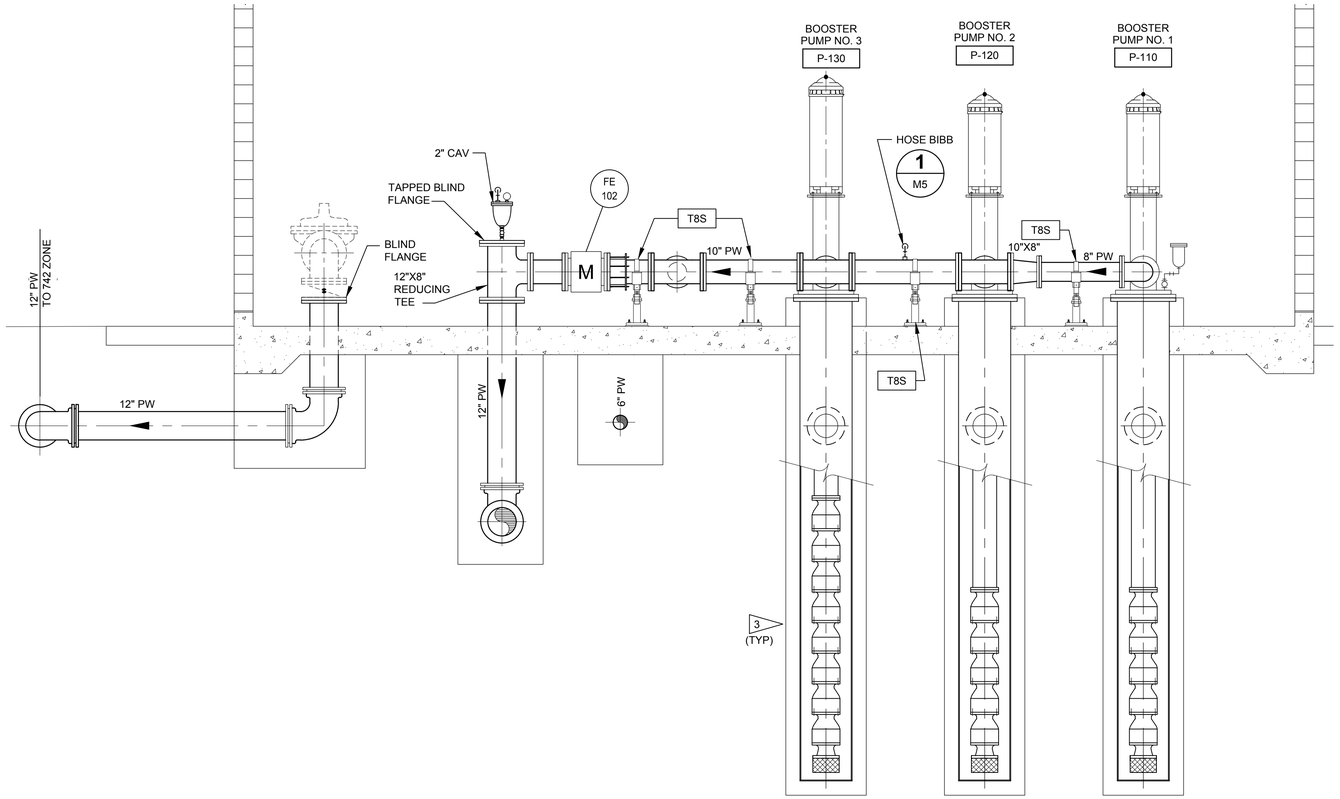
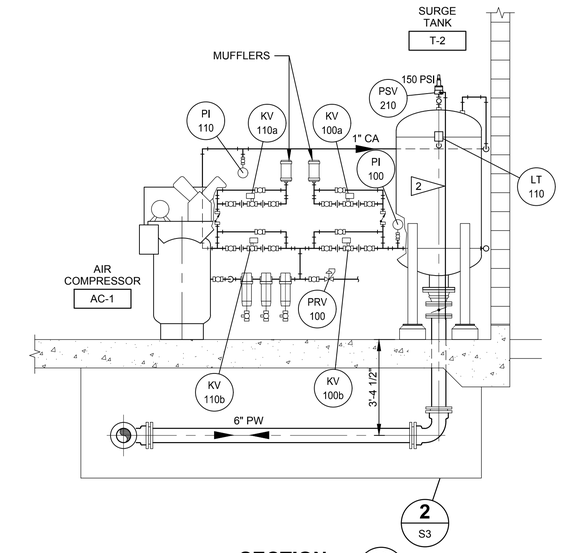


SECTION C
0 2 4
3/8"=1'-0"



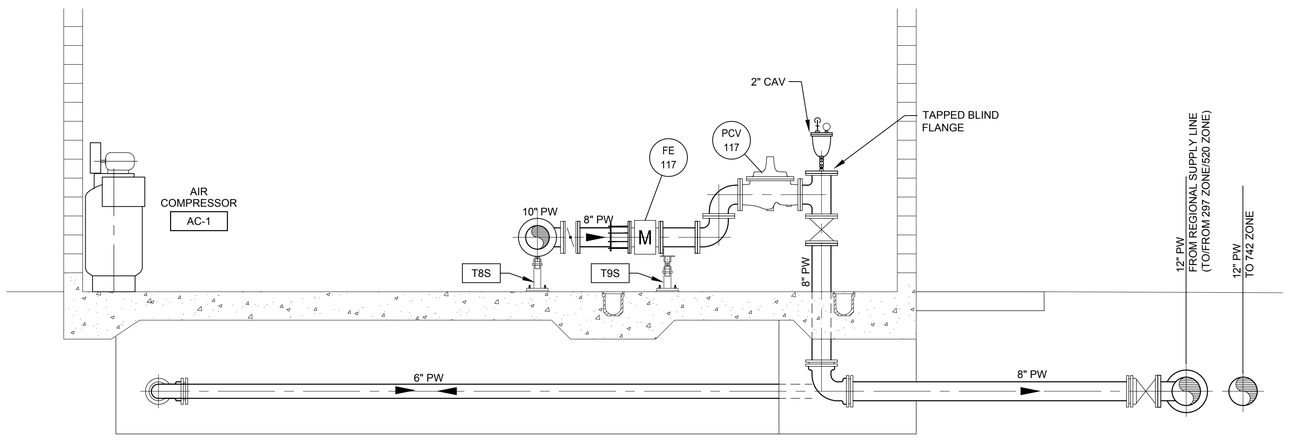
SECTION D
0 2 4
3/8"=1'-0"

NOTES:

1. NOT ALL PIPING, VALVES AND ACCESSORIES ARE SHOWN ON THIS DRAWING. THIS DRAWING SHOWS GENERAL ARRANGEMENT AND LOCATION. PROVIDE ANY ADDITIONAL EQUIPMENT, PIPING, VALVES ACCESSORIES AS SHOWN ON ASSOCIATED PROCESS AND INSTRUMENTATION DIAGRAM.

2 ROUTE DISCHARGE FROM VALVES TO NEAREST FLOOR DRAIN. MAINTAIN AIR GAP PER PLUMBING CODE.

3 NOMINAL DEPTH FROM FLOOR. MANUFACTURER TO VERIFY CAN DEPTH AND DIMENSIONS.



SECTION E
0 2 4
3/8"=1'-0"

FAN SCHEDULE

TAG NO.	LOCATION	AREA SERVED	TYPE	DRIVE	FAN & MOTOR CHARACTERISTICS						WEIGHT (LBS)	NOTES
					CFM	ESP (IN WC)	RPM	HP	VOLTS/ PHASE	ENCLOSURE		
EF-1	BOOSTER PUMP STATION	BOOSTER PUMP STATION	CENTRIFUGAL SIDEWALL	DIRECT	3,000	0.25	1,200	1	120/1	ODP	88	1,2,3,4,5,6

NOTES:
1) PROVIDE BACK DRAFT DAMPER AND WALL GRILLE.
2) MOTOR TO BE FURNISHED WITH A FACTORY-MOUNTED DISCONNECT SWITCH.
3) MOTOR TO BE VARIABLE SPEED.
4) FAN AND DAMPER SHALL BE PROVIDED WITH CORROSION RESISTANT COATING.
5) INTERLOCK FAN WITH CONTROL DAMPERS ON INTAKE LOUVERS.
6) FAN IS THERMOSTAT CONTROLLED.
7) FAN IS GREENHECK MODEL SE2-24 WITH ACCESSORIES, OR EQUAL.

DEHUMIDIFIER SCHEDULE

TAG-NO	LOCATION	AREA SERVED	PROCESS AIRFLOW (CFM)	REACTIVATION AIRFLOW (CFM)	REACTIVATION POWER (KW)	MOISTURE REMOVAL (LB/HR)	VOLTS/ PHASE	NOTES
DH-1	BOOSTER PUMP STATION	BOOSTER PUMP STATION	300	100	6	7.9	480/3	1

NOTES:
1) INTEGRAL HUMIDISTAT CONTROLLED

LOUVER SCHEDULE

TAG NO	LOCATION	AREA SERVED	TYPE	DIMENSIONS		AIRFLOW (CFM)	PRESSURE DROP (IN WC)	FRAME (IN)
				H (IN)	W (IN)			
L-1	BOOSTER PUMP STATION	BOOSTER PUMP STATION	SUPPLY	48	24	1500	0.09	4
L-2	BOOSTER PUMP STATION	BOOSTER PUMP STATION	SUPPLY	88	24	1500	0.09	4

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH
DRAWN LMM
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION SECTIONS - 2

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-M003.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 71 OF 83
M3

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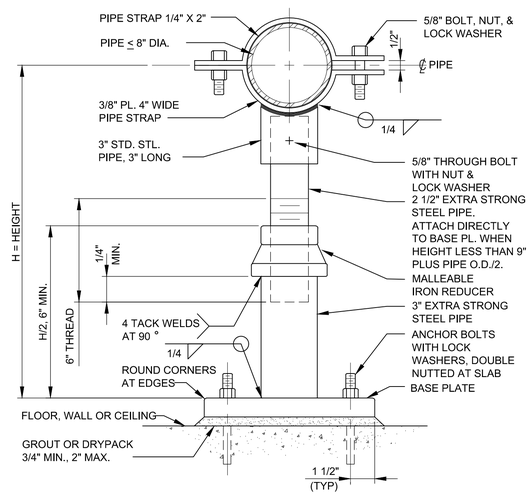
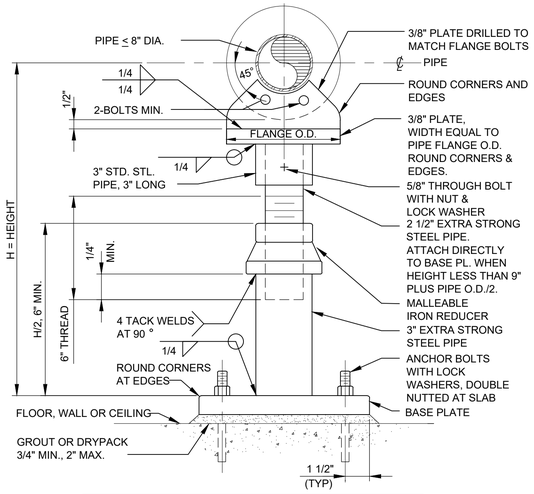


LOCATION	H (MAX.)	MEMBER	
		BASE PLATE	ANCHOR BOLTS
FLOOR	3'-0"	3/8 X 9 X 9	4-5/8"
CEILING	3'-0"	5/8 X 9 X 9	4-3/4"
WALL	1'-6"	5/8 X 9 X 9	4-3/4"

NOTES:
1. AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO BOTTOM PIPE STRAP.
2. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.

TYPE 8 SUPPORT (T8S)

SCALE: NONE (SEISMIC RESTRAINT)



LOCATION	H (MAX.)	MEMBER	
		BASE PLATE	ANCHOR BOLTS
FLOOR	3'-0"	3/8 X 9 X 9	4-5/8"
CEILING	3'-0"	5/8 X 9 X 9	4-3/4"
WALL	1'-6"	5/8 X 9 X 9	4-3/4"

NOTES:
1. AS AN ALTERNATE, IF ADJUSTMENT IS NOT NECESSARY, DELETE 2 1/2" PIPE AND REDUCER AND WELD 3" STEEL PIPE DIRECTLY TO 3/8" PLATE ATTACHED TO PIPE FLANGE.
2. DO NOT CUT OR WELD AFTER GALVANIZING.
3. PIPE SUPPORT MAY BE ORIENTATED IN ANY DIRECTION.

TYPE 9 SUPPORT (T9S)

SCALE: NONE (SEISMIC RESTRAINT)

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FOKAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH
DRAWN LMM
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STANDARD MECHANICAL DETAILS - 1

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-M004.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 72 OF 83
M4

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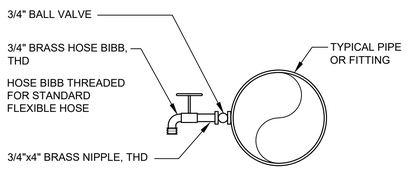
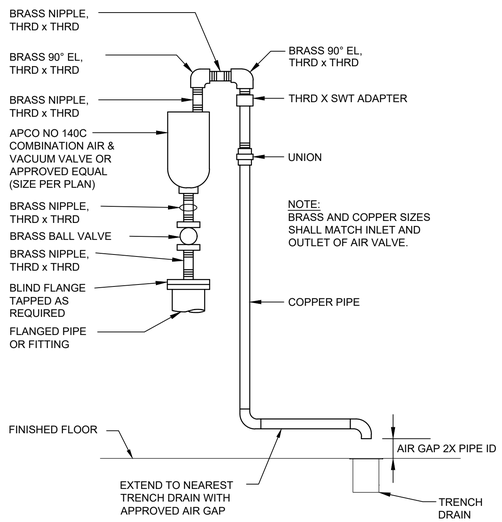
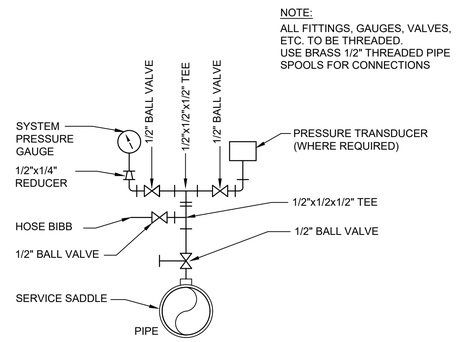


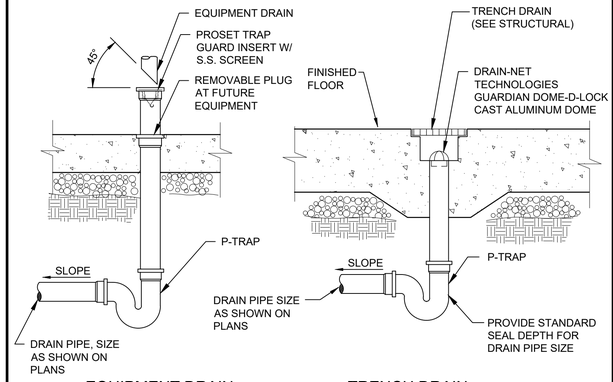
HOSE BIBB 1
NTS M1



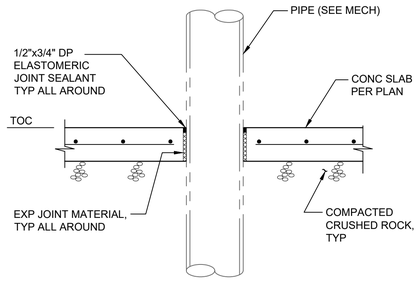
COMBINATION AIR VALVE 2
NTS M1



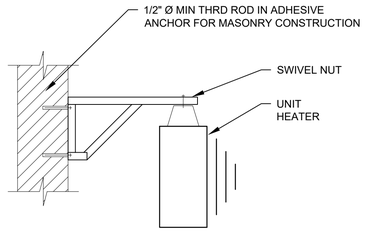
PRESSURE GAUGE AND TRANSMITTER 3
NTS M1



DRAINS 4
NTS M1



PIPE PENETRATION 5
NTS M1



HEATER MOUNTING 6
NTS M1

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

JEFFREY M. FORAY STATE OF WASHINGTON 34536 REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH
DRAWN LMM
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STANDARD MECHANICAL DETAILS - 2

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-M005.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 73 OF 83
M5

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ABBREVIATIONS

a	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSED	FLUOR	FLUORESCENT
A	AMMETER, AMPERES	FO	FIBER OPTIC
AC	ALTERNATING CURRENT	FREQ	FREQUENCY
A/D	ANALOG TO DIGITAL	FT	FEET, FOOT
ADJ	ADJUSTABLE	FU	FUSE
AF	AMPERE FRAME	(F)	FUTURE
AFD	ADJUSTABLE FREQUENCY DRIVE	FVNR	FULL VOLTAGE, NON REVERSING
AFF	ABOVE FINISHED FLOOR	FVR	FULL VOLTAGE, REVERSING
AIC	AMPERES INTERRUPTING CAPACITY	FWD	FORWARD
AL	ALUMINUM	GA	GAUGE
ALT	ALTERNATOR	GALV	GALVANIZED
A/M	AUTO/MANUAL CONTROLLER	GEN	GENERATOR
ANN	ANNUNCIATOR	GFCI	GROUND FAULT CURRENT INTERRUPTER
APPROX	APPROXIMATE	GND	GROUND
AS	AMMETER SWITCH	GRS	GALVANIZED RIGID STEEL
AT	AMMETER TRIP	H_2O_2	HYDROGEN PEROXIDE
ATS	AUTOMATIC TRANSFER SWITCH	HH	HANDHOLE
AUTO	AUTOMATIC	HMI	HUMAN MACHINE INTERFACE
AUX	AUXILIARY	HOA	HAND-OFF-AUTOMATIC
AWG	AMERICAN WIRE GAGE	HOR	HAND-OFF-REMOTE
b	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN	HORIZ	HORIZONTAL
		HP	HORSEPOWER
BCG	BARE COPPER GROUND	HPS	HIGH PRESSURE SODIUM
BLDG	BUILDING	HTR	HEATER
C	CONDUIT, CONTACTOR	HV	HIGH VOLTAGE
CAB	CABINET	HZ	HERTZ (CYCLES PER SECOND)
CAP	CAPACITOR	IND LT	INDICATING LIGHT
CB	CIRCUIT BREAKER	INCAND	INCANDESCENT
CC	CONTROL CABLE, CLOSING COIL	INSTR	INSTRUMENT, INSTRUMENTATION
CHH	COMMUNICATION HANDHOLE	I/O	INPUT/OUTPUT
CL	CHLORINE	JB	JUNCTION BOX
CKT	CIRCUIT	KA	KILOAMPERES
CMH	COMMUNICATION MANHOLE	KCMIL	THOUSANDS OF CIRCULAR MILS
CO	CONDUIT ONLY	KV	KILOVOLTS
COMM	COMMUNICATION	KVA	KILOVOLT AMPERES
COND	CONDUCTOR	KVAR	KILOVOLT AMPERES REACTIVE
CONT	CONTINUED, CONTINUATION	KVARH	KILOVOLT AMPERES REACTIVE HOURS
CPT	CONTROL POWER TRANSFORMER		
CP	CONTROL PANEL	KW	KILOWATTS
CR	CONTROL RELAY	KWH	KILOWATT HOURS
CS	CONTROL SWITCH	LCP	LIGHTING CONTROL PANEL
CT	CURRENT TRANSFORMER	LP	LIGHTING PANEL
CWP	COLD WATER PIPE	LPS	LOW PRESSURE SODIUM
DC	DIRECT CURRENT	LTG	LIGHTING
DIA	DIAMETER	LT(S)	LIGHT(S)
DIAG	DIAGRAM	(M)	MODIFIED
DISC	DISCONNECT	mA	MILLIAMPERES
DISTR	DISTRIBUTION	MAX	MAXIMUM
DN	DOWN	MCC	MOTOR CONTROL CENTER
DP	DISTRIBUTION PANEL	MCP	MOTOR CIRCUIT PROTECTOR
DPDT	DOUBLE POLE, DOUBLE THROW	MFR	MANUFACTURER
DPST	DOUBLE POLE, SINGLE THROW	MH	MANHOLE
DWG	DRAWING	MIN	MINIMUM
(E)	EXISTING	MISC	MISCELLANEOUS
EA	EACH	MOV	MOTOR OPERATED VALVE
EF	EXHAUST FAN	MS	MOTOR STARTER
EHH	ELECTRICAL HANDHOLE	MTD	MOUNTED
EL, ELEV	ELEVATION	MTG	MOUNTING
ELEC	ELECTRIC, ELECTRICAL	MTS	MANUAL TRANSFER SWITCH
ELEM	ELEMENTARY	(N)	NEW
EMERG	EMERGENCY	NC	NORMALLY CLOSED
ENCL	ENCLOSURE	NEC	NATIONAL ELECTRICAL CODE
EFFL	EFFLUENT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
EQ	EQUAL		
EQPT	EQUIPMENT	NEUT	NEUTRAL
ETM	ELAPSED TIME METER	NIC	NOT IN CONTRACT
FACP	FIRE ALARM CONTROL PANEL	NO	NORMALLY OPEN, NUMBER
FDR	FEEDER	NTS	NOT TO SCALE
FF	FINISHED FLOOR	OH	OVERHEAD
FLEX	FLEXIBLE	OT	OVER TEMPERATURE
		OL	THERMAL OVERLOAD RELAY
		PB	PULLBOX, PUSHBUTTON
		PD	POSITIVE DISPLACEMENT
		PE	PHOTOELECTRIC
		PEC	PHOTOELECTRIC CELL
		PF	POWER FACTOR
		pH	MEASURE OF ACIDITY OR ALKALINITY
		PH	PHASE
		PLC	PROGRAMMABLE LOGIC CONTROLLER
		PNL	PANEL
		PNLBD	PANELBOARD
		PRI	PRIMARY
		PS	PRESSURE SWITCH
		PSI	POUNDS PER SQUARE INCH
		PVC	POLYVINYL CHLORIDE
		PWR	POWER
		(RL)	RELOCATE
		(RLD)	RELOCATED
		RCPT	RECEPTACLE
		RCT	REPEAT CYCLE TIMER
		REQD	REQUIRED
		RM	ROOM
		RPM	REVOLUTIONS PER MINUTE
		RT	RESET TIMER
		SCR	SILICON CONTROLLED RECTIFIER
		SD	SMOKE DETECTOR
		SEC	SECONDS, SECONDARY
		SECT	SECTION
		SF	SUPPLY FAN
		SHH	SIGNAL HANDHOLE
		SHT	SHEET
		SIG	SIGNAL
		SN	SOLID NEUTRAL
		SPECS	SPECIFICATIONS
		SPDT	SINGLE POLE, DOUBLE THROW
		SS	STAINLESS STEEL, SOLID STATE
		SW	SWITCH
		SWBD	SWITCHBOARD
		SWGR	SWITCHGEAR
		SYNC	SYNCHRONIZING
		TB	TERMINAL BOX, TERMINAL BOARD
		TC	TELEPHONE CABINET
		TEL	TELEPHONE
		TEMP	TEMPERATURE
		TSP	TWISTED SHIELDED PAIR
		TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
		TYP	TYPICAL
		UG	UNDERGROUND
		UH	UNIT HEATER
		UV	ULTRA VIOLET
		V	VOLTS
		VA	VOLT-AMPERES
		VFD	VARIABLE FREQUENCY DRIVE
		VAR	VOLT AMPERES REACTIVE
		VERT	VERTICAL
		VH	VAR-HOUR
		VS	VOLTMETER SWITCH
		W	WIRE, WATTS
		WCR	WORKING CAPITAL REQUIREMENT
		WHM	WATTHOUR METER
		WHDM	WATTHOUR DEMAND METER
		WR	WEATHER RESISTANT
		WT	WATERTIGHT
		WTP	WATER TREATMENT PLANT
		XFMR	TRANSFORMER

GENERAL NOTES:

G1. THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.

G2. THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.

G3. NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN FAVORABLY REVIEWED BY THE ENGINEER.

G4. INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ANSI C37.2, Y1.1, Y32.2, AND Y32.9.

G5. VERIFY ALL COLOR REQUIREMENTS BEFORE ORDERING MATERIALS.

G6. REFER TO THE MECHANICAL DRAWINGS FOR CERTAIN CONTROL DIAGRAMS AND EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND FOR CERTAIN CONNECTIONS TO BE MADE TO ELECTRICAL CIRCUITS.

PLAN NOTES:

P1. CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, THE FILL SHALL BE 2#12. PROVIDE 3/16 INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.

P2. LOWER CASE LETTERS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT. FOR FOUR LAMP FLUORESCENT FIXTURES WIRED IN PAIRS WITHIN EACH FIXTURE, THE "a" SWITCH CONTROLS THE OUTER LAMPS AND THE "b" SWITCH CONTROLS THE INNER LAMPS; WIRE 3 LAMP FIXTURES SIMILARLY.

P3. CONDUIT AND WIRE LAYOUT FOR LIGHTING AND RECEPTACLES NOT SHOWN. PROVIDE PER NEC.

P4. NUMBER OF CIRCLES DOES NOT REPRESENT THE NUMBER OF CONDUITS IN THE ENCASEMENT.

PLAN SYMBOLS

- OH — OVERHEAD POWER LINE
- UNDERGROUND CONDUIT
- MULTIPLE CONDUIT RUN
- CONDUIT CONCEALED IN FLOOR
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT EXPOSED
- 3/4"C-3#12 — CALLOUT INDICATING CONDUIT SIZE, NUMBER OF WIRES AND WIRE SIZE
- 0135 — CALLOUT INDICATING CONDUIT PER SCHEDULE
- CONDUIT RUN, HATCH MARKS INDICATE NO. OF #12 CONDUCTORS NO HATCH MARKS IS 2#12 UNLESS OTHERWISE NOTED
- HOME RUN TO PANELBOARD OR AS INDICATED
- FLEXIBLE CONDUIT
- CONDUIT RUN, BROKEN AND CONTINUED ON SAME SHEET OR AS NOTED
- CONDUIT WITH SEAL FITTING
- CAP ON CONDUIT STUB
- OPEN CIRCLE DENOTES UPWARD CONDUIT RISER
- SEMI CIRCLE DENOTES DOWNWARD CONDUIT RISER
- INDICATES REMOVAL
- FA — FIRE ALARM CONDUIT
- T — TELEPHONE CONDUIT
- S — SECURITY SYSTEM CONDUIT
- 120V SURFACE MOUNTED PANELBOARD
- 120V FLUSH MOUNTED PANELBOARD
- 480V SURFACE MOUNTED PANELBOARD
- 480V FLUSH MOUNTED PANELBOARD
- (M) — MOTOR
- DISCONNECT SAFETY SWITCH
- COMBINATION MOTOR STARTER
- S_{MS} — MANUAL MOTOR STARTER
- CONTROL STATION
- EQUIPMENT MOUNTING STAND
- GROUND ROD AND BOX
- INSTRUMENT
- EMH EHH SHH — ELECTRIC MANHOLE / POWER HANDHOLE / SIGNAL HANDHOLE
- K — INTRUSION REMOTE KEY PAD
- D — INTRUSION DOOR SWITCH
- SAP — SECURITY ALARM PANEL
- EQUIPMENT CONNECTION
- PROXIMITY SENSOR
- WALL SENSOR
- ANTENNA

- S_* — SINGLE POLE SWITCH; 2 = 2 POLE, 3 = 3 WAY, 4 = 4 WAY, K = KEY OPERATED, WR = WEATHER RESISTANT, D = DIMMER, P = SWITCH WITH PILOT LIGHT
- S^{ab} — SINGLE POLE SWITCH (NOTE P2)
- FLUORESCENT FIXTURE (NOTE P2)
- FLUORESCENT FIXTURE WITH NIGHT LIGHTING (UNSWITCHED) OR FLUORESCENT FIXTURE WITH SELF-CONTAINED EMERGENCY BALLAST/BATTERY
- WALL/CEILING MOUNTED FIXTURE
- WALL/CEILING MOUNTED FIXTURE NIGHT LIGHTING (UNSWITCHED)
- POLE MOUNTED FIXTURE
- WALL/CEILING MOUNTED EXIT LIGHT - DIRECTIONAL ARROW WHERE INDICATED, SHADED AREA INDICATES ILLUMINATED FACE
- EMERGENCY LIGHT WITH SELF CONTAINED BATTERY
- A — 12' #11 — LIGHT FIXTURE IDENTIFICATION
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, 240V
- DUPLEX WALL RECEPTACLE, 120V; WR = WEATHER RESISTANT, G = GROUNDED, IG = ISOLATED GROUND, GF = GROUND FAULT INTERRUPTER
- DOUBLE DUPLEX WALL RECEPTACLE, 120V
- DUPLEX FLOOR RECEPTACLE, 120V
- MULTI-OUTLET ASSEMBLY WITH SINGLE RECEPTACLE, 120V SPACING (X INCHES) AS NOTED, MOUNTING HEIGHT AS NOTED — X"
- RECEPTACLE, 480V
- J — WALL/CEILING MOUNTED JUNCTION BOX
- J — FLOOR RECESS MOUNTED JUNCTION BOX
- T — THERMOSTAT, WALL MOUNTED
- WALL TELEPHONE OUTLET (+12")
- DATA WALL OUTLET
- TELE-DATA WALL OUTLET
- FLOOR OUTLETS
- F — FIRE ALARM PULL STATION
- F — FIRE ALARM FLASHING LIGHT
- F — FIRE ALARM HORN
- B — BELL
- BUZZER
- H — HEAT DETECTOR
- S — SMOKE DETECTOR
- FACP — FIRE ALARM CONTROL PANEL
- MS — MOTION SENSOR
- IS — INTRUSION SWITCH
- VIDEO CAMERA

SINGLE LINE SYMBOLS

- GROUND CONNECTION
- SWITCH, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED
- AUTOMATIC TRANSFER SWITCH 3 POLE, RATING AS NOTED
- ST — SHUNT TRIP
- TB-# #A 1 — FUSE
- FUSE CUTOUT
- MCP 100AT — 100AT 100AF — CIRCUIT BREAKER, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED. IF TWO RATINGS APPEAR (EG. 100/625) THEN DEVICE IS MCP; NUMERATOR IS CONTINUOUS CURRENT RATING & DENOMINATOR IS INSTANTANEOUS TRIP SETTING.
- POWER CIRCUIT BREAKER DRAWOUT ABOVE 1500V RATING AS NOTED
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- POWER OR DISTRIBUTION TRANSFORMER RATING AS NOTED
- 100 — MOTOR. NUMBER INDICATES HORSEPOWER
- GEN — GENERATOR
- CONTROL PACKAGE PROVIDED WITH THE DRIVEN EQUIPMENT
- BUS STAB ON MCC OR SWITCHGEAR, CORD & PLUG CONNECTION FOR MOTORS
- OL — THERMAL OVERLOAD
- * — A - AMMETER, V - VOLTMETER, WH - WATTHOUR METER, GS - GROUND FAULT SENSOR
- AS — AMMETER SWITCH
- VS — VOLTMETER SWITCH
- 2 — ELEMENTARY DIAGRAM REFERENCE NUMBER
- K — KIRK KEY INTERLOCK
- POWER RECEPTACLE FOR PORTABLE EQUIPMENT
- # — RELAY DEVICE FUNCTION, # PER ANSI NUMBER C37.2
- TERMINATOR / POTHEAD
- SPLICE, TERMINATION
- 1 — MOTOR STARTER NUMBER INDICATES NEMA SIZE
- 5 — CAPACITOR - KVAR INDICATED
- AFD — AFD - ADJUSTABLE FREQUENCY DRIVE SS - SOLID STATE STARTER
- AFD 5 — AFD WITH BYPASS CONTACTOR, CONTACTOR NEMA SIZE AS INDICATED
- SS — SS STARTER WITH BUILT-IN FULL SPEED CONTACTOR
- SPD — SURGE PROTECTIVE DEVICE
- MOTOR HEATER — MOTOR HEATER

ELEMENTARY DIAGRAM SYMBOLS

- FUSE. RATING IN AMPERES
- M — MOTOR; ETM — ELAPSED TIME METER
- ** — CONTROL DEVICE COIL. PREFIX NUMBER, WHEN USED, DISTINGUISHES BETWEEN DEVICES OF THE SAME TYPE.
  - ** ALT - ALTERNATOR; CR - CONTROL RELAY; GR - GENERAL RELAY; ISR - INTRINSICALLY SAFE RELAY
  - LR - LATCH RELAY; PR - PROBE RELAY; SV - SOLENOID VALVE; TD - TIME DELAY RELAY; TR - TIMING RELAY
- 1 CR — 2-2, 3, 0, 0 — CROSS REFERENCE TO ANOTHER DIAGRAM; NORMALLY OPEN CONTACT ON THE OTHER DIAGRAM; SPARE CONTACTS ON RELAY. IF OMITTED, THEN THE SPEC. REQUIREMENTS REGARDING SPARE CONTACTS APPLY.; NORMALLY CLOSED CONTACT ON THIS DIAGRAM
- INDICATING LIGHT
- PUSH-TO-TEST INDICATING LIGHT
  - * COLORS: A - AMBER, B - BLUE, C - CLEAR, G - GREEN; R - RED, N - NEON, W - WHITE, Y - YELLOW
- ON OFF — SINGLE POLE SWITCH NORMALLY OPEN / CLOSED
- START STOP — EMERGENCY PUSHBUTTON NORMALLY OPEN / CLOSED
- START STOP — PUSHBUTTON NORMALLY OPEN / CLOSED
- SWITCH 1-POLE / 3-POLE
- MULTI-POSITION SELECTOR SWITCH
- H O A — HAND-OFF-AUTOMATIC SWITCH X-INDICATES CONTACTS CLOSED
- H O R — HAND-OFF-REMOTE SWITCH X-INDICATES CONTACTS CLOSED
- TERMINAL
- H1 H3 H2 H4 — X1 X2 — CONTROL POWER TRANSFORMER

AMP/FRAME

- AMPS POLES — CIRCUIT BREAKER, MCP 1-POLE / 3-POLE
- GROUND CONNECTION
- INSTRUMENT
- NO CR NC CR — CONTACT NORMALLY OPEN / CLOSED
- BUS STAB ON MCC; CORD & PLUG CONNECTION FOR MOTORS

SENSING SWITCHES		
CLOSE ON		SENSED VARIABLE
RISING	FALLING	
FS	FS	FLOW
LS	LS	LEVEL
PS	PS	PRESSURE
TS	TS	TEMPERATURE

LIMIT SWITCHES	
ZS	CLOSE ON REACHING LIMIT
ZS	CLOSE ON LEAVING LIMIT

TIMED CONTACTS			
SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
TR	OPEN	DELAYED	INSTANTANEOUS
TR	CLOSED	INSTANTANEOUS	DELAYED
TR	OPEN	INSTANTANEOUS	DELAYED
TR	CLOSED	DELAYED	INSTANTANEOUS

BUZZER; BELL; HORN

OL — THERMAL OVERLOAD

ELEMENTARY DIAGRAMS

E1 UNDERLINED WORDS SHOWN AT A PUSHBUTTON, LIGHT, SELECTOR SWITCH, ETC. INDICATE THE LEGEND PLATE REQUIREMENT FOR THAT PARTICULAR DEVICE. ANY ADDITIONAL NAMEPLATES ARE INDICATED ON ELEVATIONS WITH THE REQUIRED NAMEPLATE INSCRIPTIONS.

E2 "NORMAL" STATUS OF SWITCHES OR CONTACTS IS THE SHELF POSITION.

E3 NUMBERS AND LETTERS IDENTIFY DEVICE.

NO.	REVISION	DATE	BY

SCALES

0 1" — 0 25mm

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LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22585 — REGISTERED — PROFESSIONAL ENGINEER

DESIGNED JEV

DRAWN JEV

CHECKED PAR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

ELECTRICAL ABBREVIATIONS AND SYMBOLS

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-E001.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 74 OF 83
E1

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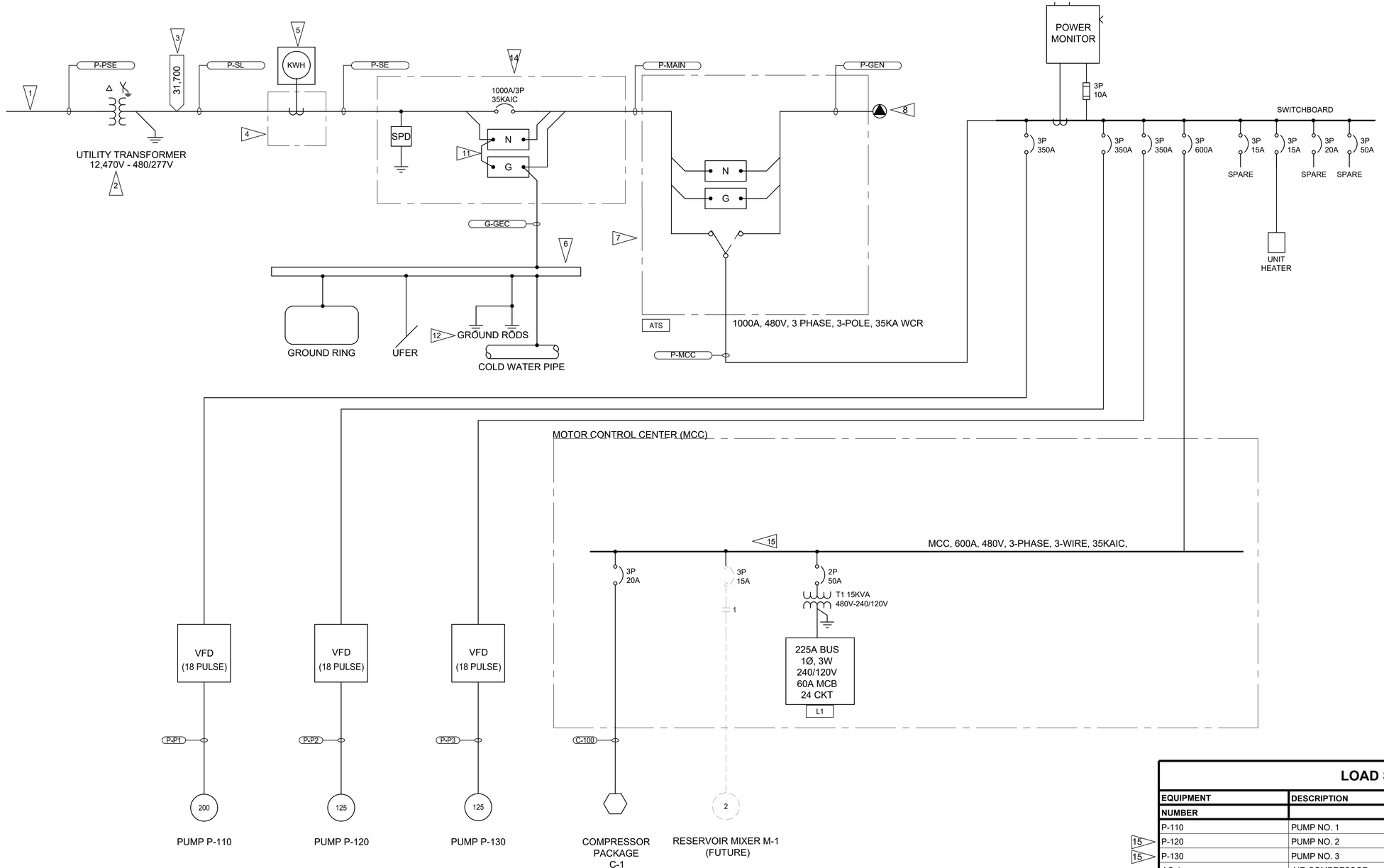

NOTES:

1. PRIMARY POWER CABLE BY PSE.
2. NEW PAD-MOUNTED TRANSFORMER SIZED, PROVIDED, AND INSTALLED BY UTILITY.
3. AVAILABLE FAULT CURRENT (RMS SYMMETRICAL) BASED ON UTILITY INFORMATION.
4. NEMA 3R CT ENCLOSURE PER UTILITY REQUIREMENTS.
5. CONTRACTOR SHALL INSTALL NEW 1000 AMP UTILITY METER PANEL ACCORDING TO PSE REQUIREMENTS.
6. SYSTEM GROUND BUS SHALL BE COPPER 2" X 1/4" X 12" MINIMUM. CONNECT GROUNDING ELECTRODE CONDUCTORS TO GROUND BUS BY EXOTHERMIC WELDING, LISTED PRESSURE CONNECTORS, OR LISTED CLAMPS.
7. AUTOMATIC TRANSFER SWITCH.
8. 400A RECEPTACLE FOR PORTABLE GENERATOR REFER TO SPECIFICATIONS.
9. SPARE BREAKER FOR FUTURE USE.
10. POWER MONITOR, SIEMENS 9300 OR EQUAL. COMPLETE WITH ALL ACCESSORIES.
11. MAIN BONDING JUMPER. ENSURE THAT THE SYSTEM NEUTRAL IS GROUNDED ONLY AT THE SERVICE ENTRANCE DISCONNECT. ENSURE THAT THE SYSTEM IS NOT GROUNDED AT THE MANUAL TRANSFER SWITCH, THE MOTOR CONTROL CENTER OR THE GENERATOR.
12. GROUND RODS SHALL BE PLACED AT LEAST 16' APART.
13. VFD AND CIRCUIT BREAKER SHALL BE SIZED FOR (F) 200 HP MOTOR.
14. MAIN SERVICE DISCONNECT. SERVICE IS RATED 800 AMPS FOR FUTURE EXPANSION.
15. PUMPS P-120 AND P-130 TO BE MUTUALLY INTERLOCKED BY INTEGRATOR SOFTWARE TO DISALLOW SIMULTANEOUS OPERATION.

LOAD SUMMARY - 480 V

EQUIPMENT NUMBER	DESCRIPTION	CONNECTED LOAD HP	CONNECTED LOAD AMPERES	DEMAND FACTOR	TOTAL AMPERES
P-110	PUMP NO. 1	200	240.0	1.00	240.0
15 P-120	PUMP NO. 2	200	240.0	1.00	240.0
15 P-130	PUMP NO. 3	200	240.0	1.00	240.0
AC-1	AIR COMPRESSOR	5	7.6	1.00	7.6
M-1	MIXER (FUTURE)	2	3.4	1.00	3.4
T1	TRANSFORMER T1 (15 KVA)		31.3	0.70	21.9
H-1	HEATER		6.0	1.00	6.0
	25% LARGEST MOTOR		60.0	1.00	60.0
480V, 3-PHASE, 4-WIRE			TOTALS:		819

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LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22589 — REGISTERED PROFESSIONAL ENGINEER

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CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

SINGLE LINE DIAGRAM

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-E002.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 75 OF 83
E2

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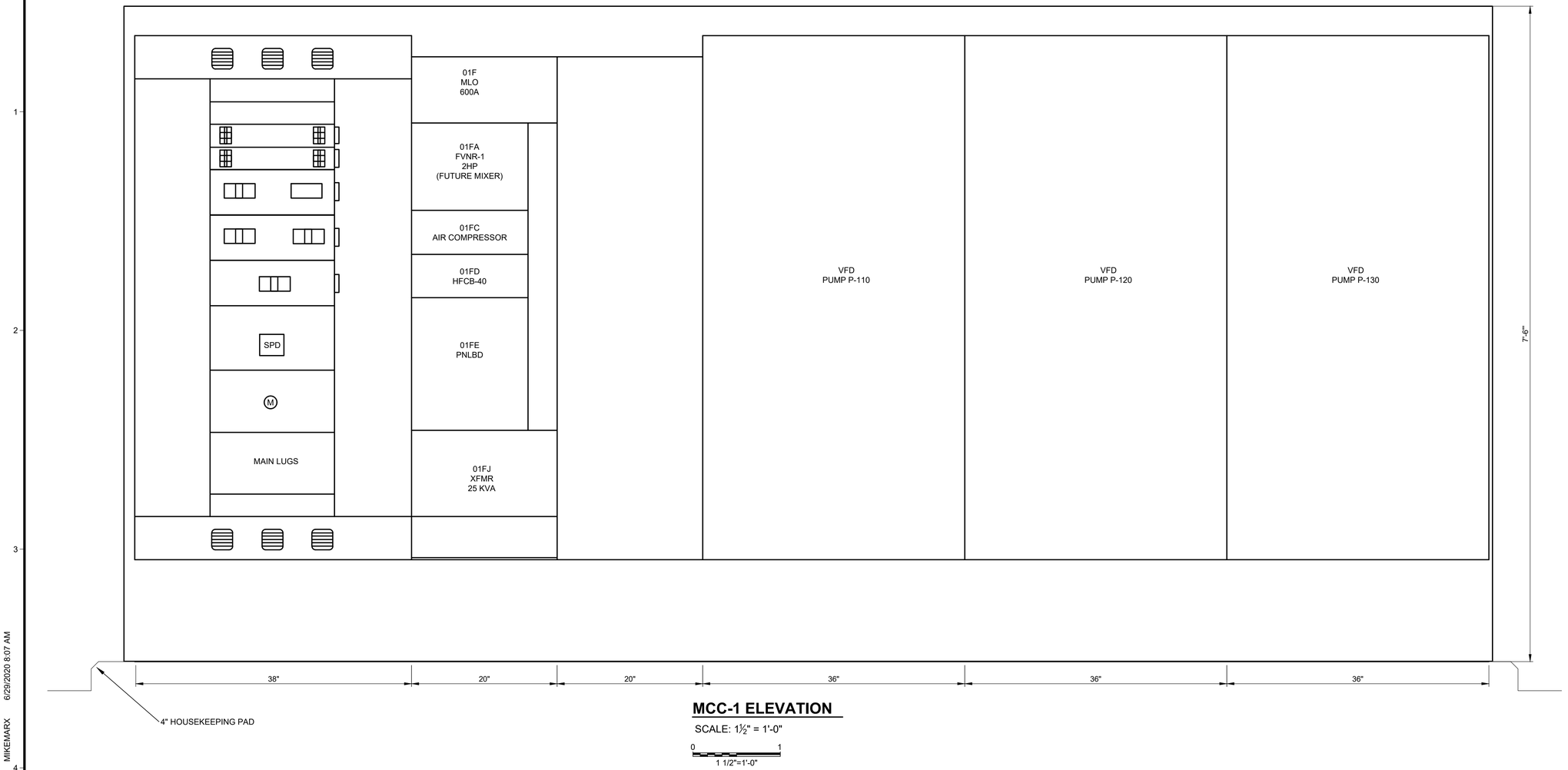

MCC-1 ELEVATION

SCALE: 1½" = 1'-0"

0 1

1 1/2"=1'-0"

6/29/2020 8:07 AM MIKEMARX P:\CAD\13\1397005.00_City_of_Issaquah\139700500-E003.dwg

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SCALES

0 1"

0 25mm

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DESIGNED PAR

DRAWN RFB

CHECKED PAR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

MCC-1 ELEVATION

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FILE NAME 139700500-E003.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 76 OF 83
E3

NOTES:

1. SEE SHEET C-1 FOR CONTINUATION.
2. SPARE CONDUITS STUBBED AND CAPPED.
3. CONNECT BUILDING GROUND AND SERVICE TO GROUND RING AND RODS IN EACH CORNER PER NEC REQUIREMENTS.
4. PUMPS P-120 AND P-130 WILL INITIALLY BE INSTALLED WITH 125 HP MOTORS. MOTOR DRIVES AND CONDUCTORS WILL BE INSTALLED WITH CAPACITY FOR 200 HP. CONTRACTOR SHALL FURNISH MOTORS WITH JUNCTIONS BOXES SUITABLE FOR CONNECTING CONDUIT AND CONDUCTORS ACCORDING TO THE CONDUIT SCHEDULE.
5. AIR COMPRESSOR, SURGE TANKS, AND SURGE SYSTEM CONTROL PANEL ARE ALL FURNISHED AS A PACKAGE BY ONE SYSTEM VENDOR. PROVIDE ALL INTERCONNECTING CONDUITS AND WIRING PER VENDOR'S SHOP DRAWINGS.

HANDHOLE FOR FUTURE RESERVOIR ELECTRICAL
GENERATOR CONNECTION
DEHUMIDIFIER DH-1
PANEL L1, CKT 5 3/4" C, 2#12, 1#12G
DOOR STRIKE JUNCTION BOX
ZSO 143 INTRUSION
C-IS3
C-ATS
PANEL L1, CKT 1 1"C, 2#12, 1#12G
P-CA
(F) FREE CHLORINE ANALYZER
PSL 104
PANEL L1, CKT 7 3/4" C, 2#12, 1#12G
C-PS
(F) ALTITUDE VALVE
ZSC 116
C-116
PIT 103
FIT 102
S-103
S-102
SURGE SYSTEM CONTROL PANEL
P-RSV
S-RSV
PANEL L1, CKT9 1" C, 2#12, 1#12G
EXHAUST FAN EF-1
PANEL L1, CKT 4 1"C, 2#12, 1#12G
SURGE TANK T-1
150 PSI PSV 200
150 PSI PSV 210
SURGE TANK T-2
BOOSTER PUMP NO. 3 P-130
BOOSTER PUMP NO. 2 P-120
BOOSTER PUMP NO. 1 P-110
S-108
C-PS
P-CA
PIT 108
S-117
FIT 117
ZSO 131 INTRUSION
C-IS3
ZSO 121 INTRUSION
C-IS2
ZSO 111 INTRUSION
C-IS1
ZSC 130
C-LS3
ZSC 120
C-LS2
ZSC 110
C-LS1
XS 113 SMOKE
C-SD
PANEL L1
XS 114
C-MD
PANEL L1
P-P1
P-P3
P-P2
MCC
CT-CP
P-AC
UNIT HEATER
C-100
AIR COMPRESSOR AC-1
NOTE 3
P-GEN
C-ATS
ATS
MAIN
SERVICE DISC
P-SE
CT ENCLOSURE
BATTERY BOX
VIDEO PANEL
UTILITY METER
CONTROL PANEL
S-102
S-103
C-PS
S-117
S-RSV
S-108
C-116
P-CA
S-CA
DOOR STRIKE JUNCTION BOX
C-IS1
ZSO 141 INTRUSION
PANEL L1, CKT 1 1"C, 2#12, 1#12G
P-CP
C-IS2
ZSO 142 INTRUSION
NOTE 2
P-PSE
C-FO
NOTE 1
(3) 1-1/2" SPARE CONDUITS STUBBED UP AND CAPPED INSIDE BUILDING
VAULT MOUNTED TRANSFORMER (VAULT PROVIDED BY PSE)
P-PSE
NOTE 1
FO
P

PLAN

0 2 4
3/8"=1'-0"

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISNER STATE OF WASHINGTON 22589 REGISTERED PROFESSIONAL ENGINEER

DESIGNED LGR
DRAWN RFB/JL
CHECKED LGR

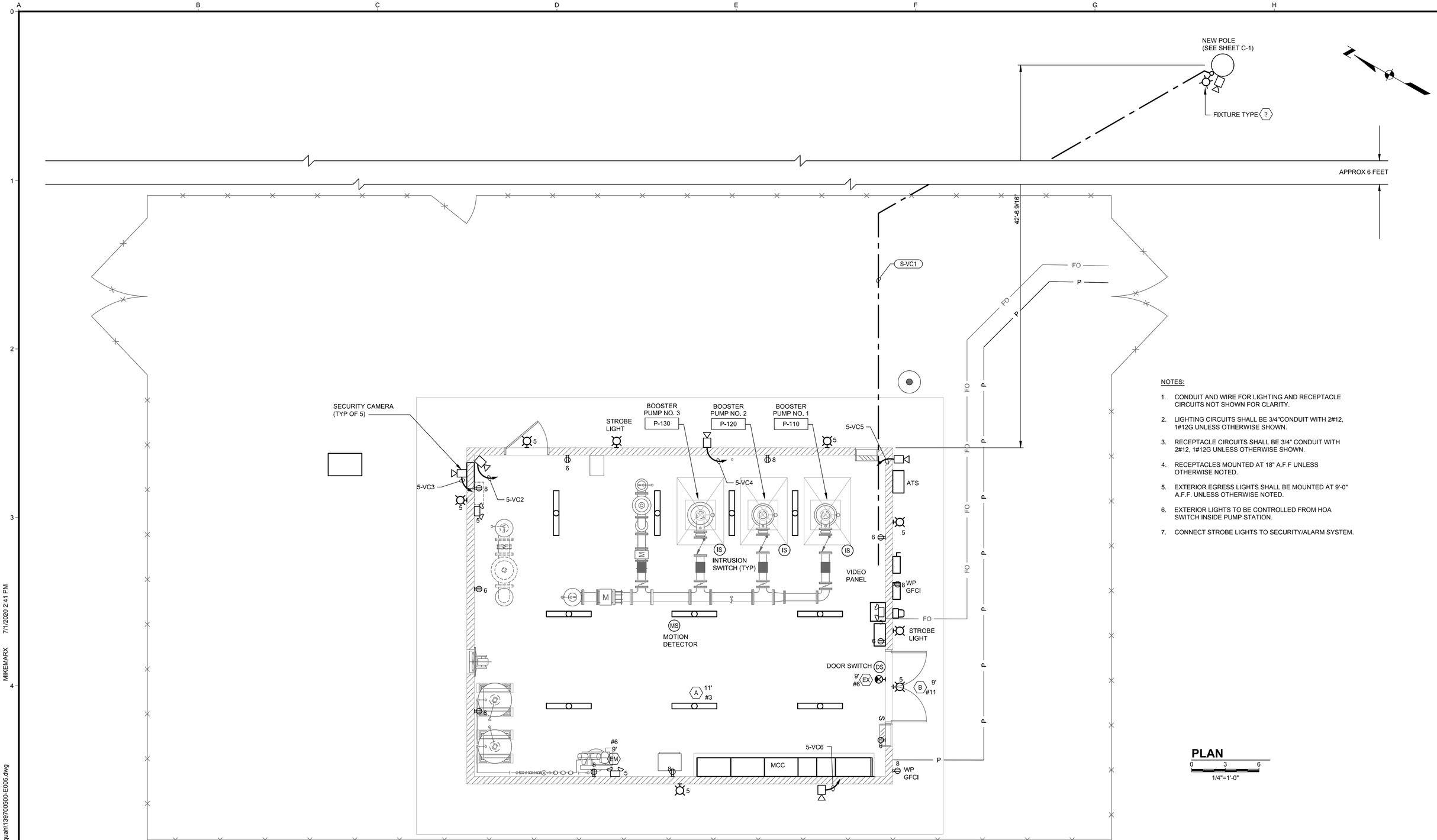
CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION POWER AND SIGNAL PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-E004.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 77 OF 83
E4



NOTES:

1. CONDUIT AND WIRE FOR LIGHTING AND RECEPTACLE CIRCUITS NOT SHOWN FOR CLARITY.
2. LIGHTING CIRCUITS SHALL BE 3/4"CONDUIT WITH 2#12, 1#12G UNLESS OTHERWISE SHOWN.
3. RECEPTACLE CIRCUITS SHALL BE 3/4" CONDUIT WITH 2#12, 1#12G UNLESS OTHERWISE SHOWN.
4. RECEPTACLES MOUNTED AT 18" A.F.F UNLESS OTHERWISE NOTED.
5. EXTERIOR EGRESS LIGHTS SHALL BE MOUNTED AT 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
6. EXTERIOR LIGHTS TO BE CONTROLLED FROM HOA SWITCH INSIDE PUMP STATION.
7. CONNECT STROBE LIGHTS TO SECURITY/ALARM SYSTEM.

PLAN

0 3 6

1/4"=1'-0"

NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22589 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED	LGR
DRAWN	RFB/JL
CHECKED	LGR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PUMP STATION LIGHTING AND VIDEO PLAN

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME	139700500-E005.DWG
JOB NO.	1397005*00
DATE	JUNE 2020
SHEET	78 OF 83
	E5

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CONDUIT AND WIRE SCHEDULE

NUMBER	FROM	TO	SIZE (")	POWER	CONTROL	SIGNAL	COMMENTS
	AREA/GROUP						
P-PSE	PRIMARY CABLES	TRANSFORMER	BY PSE	BY PSE			FURNISHED BY PSE
P-SL	TRANSFORMER	POWER METERING ENCLOSURE	3X3"	3X 3-400 KCM, 1- #2N, 1-#2/0G			
P-SE	POWER METERING ENCLOSURE	MAIN (SUSE) CIRCUIT BREAKER	3X3"	3X 3-400 KCM, 1- #2N, 1-#2/0G			
P-MAIN	MAIN (SUSE) CIRCUIT BREAKER	AUTOMATIC TRANSFER SWITCH	3X3"	3X 3-400 KCM, 1- #2N, 1-#2/0G			
P-GEN	GENERATOR TERMINATION BOX	AUTOMATIC TRANSFER SWITCH	3X3"	3X 3-400 KCM, 1- #2N, 1-#2/0G			
G-GEC	GROUND NETWORK	MAIN (SUSE) CIRCUIT BREAKER	BARE	1-#2/0			
P-SB	AUTOMATIC TRANSFER SWITCH	SWITCHBOARD	3X2-1/2"	3X 3-400 KCM, 1- #2N, 1-#2/0G			
P-V1	SWITCHBOARD	VFD P-110	3"	3-350 KCM, 1- #2N, 1-#3G			
P-V2	SWITCHBOARD	VFD P-120	3"	3-350 KCM, 1- #2N, 1-#3G			
P-V3	SWITCHBOARD	VFD P-130	3"	3-350 KCM, 1- #2N, 1-#3G			
P-V4	SWITCHBOARD	UNIT HEATER	¾"	2-#12, 1-#12G			
P-MCC	SWITCHBOARD	MOTOR CONTROL CENTER	2X3"	2X 3-#350 KCM, 1-#1G			
P-P1	VFD P-110	PUMP P-110	3"	3-350 KCM, 1- #2N, 1-#3G	2-#14		
P-P2	VFD P-120	PUMP P-120	3"	3-350 KCM, 1- #2N, 1-#3G	2-#14		
P-P3	VFD P-130	PUMP P-130	3"	3-350 KCM, 1- #2N, 1-#3G	2-#14		
P-AC	MOTOR CONTROL CENTER	AIR COMPRESSOR	1"	3-#12, 1-#12N, 1-#12G			
P-CP	MOTOR CONTROL CENTER (PANEL)	CONTROL PANEL	¾"	2-#12, 1-#12G			
P-VCP	MOTOR CONTROL CENTER (PANEL)	VIDEO CONTROL PANEL	¾"	2-#12, 1-#12G			
P-MD	MOTOR CONTROL CENTER (PANEL)	MOTION DETECTOR, XS-114	¾"	2-#12, 1-#12G			
P-SD	MOTOR CONTROL CENTER (PANEL)	SMOKE DETECTOR, XS-113	¾"	2-#12, 1-#12G			
P-ST	MOTOR CONTROL CENTER (PANEL)	SURGE TANK CP	¾"	2-#12, 1-#12G			
P-CA	CONTROL PANEL	CHLORINE ANALYZER (FUTURE)	¾"	2-#12, 1-#12G			FUTURE
P-RSV	MOTOR CONTROL CENTER	HANDHOLE FOR (F) RESERVIOR	2-2"	TBD			FUTURE
CT-CP	MCC	CONTROL PANEL	2"			PER S&B	FROM VFDS TO PLC, PROVIDED BY INTGRATOR
C-IS1	CONTROL PANEL	ROOF INTRUSION SWITCH 1, ZSO-111	¾"		2-#14		
C-IS2	CONTROL PANEL	ROOF INTRUSION SWITCH 2, ZSO-121	¾"		2-#14		
C-IS3	CONTROL PANEL	ROOF INTRUSION SWITCH 3, ZSO-131	¾"		2-#14		
C-IS1	CONTROL PANEL	DOOR INTRUSION SWITCH 1, ZSO-141	¾"		2-#14		
C-IS2	CONTROL PANEL	DOOR INTRUSION SWITCH 2, ZSO-142	¾"		2-#14		
C-IS3	CONTROL PANEL	DOOR INTRUSION SWITCH 1, ZSO-143					
C-MD	CONTROL PANEL	MOTION DETECTOR, XS-114	¾"		2-#14		
C-SD	CONTROL PANEL	SMOKE DETECTOR, XS-113	¾"		2-#14		
C-104	CONTROL PANEL	PRESSURE SWITCH, PSL-104	¾"				FUTURE
C-LS1	CONTROL PANEL	CHECK VALVE LS PUMP 1, ZSC-110	¾"		2-#14		
C-LS2	CONTROL PANEL	CHECK VALVE LS PUMP 2, ZSC-120	¾"		2-#14		
C-LS3	CONTROL PANEL	CHECK VALVE LS PUMP 3, ZSC-130	¾"		2-#14		
C-PS	CONTROL PANEL	PS-104	¾"		2-#14		
C-116	CONTROL PANEL	ZSC-116	¾"				FUTURE
C-GEN	CONTROL PANEL	AUTOMATIC TRANSFER SWITCH	1"		8-#14		
C-ATS	GENERATOR RECEPTACLE	AUTOMATIC TRANSFER SWITCH	1"		8-#14		
S-102	CONTROL PANEL	MAGNETIC FLOWMETER, FIT-102	1"		2-#14	#16 TSP	24 VDC POWER
S-103	CONTROL PANEL	PRESSURE TRANSMITTER, PIT-103	¾"			#16 TSP	
S-108	CONTROL PANEL	PRESSURE TRANSMITTER, PIT-108	¾"			#16 TSP	
S-116	CONTROL PANEL	SPILLBACK VALVE POSITION ZT-116	¾"			#16 TSP	
S-117	CONTROL PANEL	MAGNETIC FLOWMETER, FIT-117	1"		2-#14	#16 TSP	24 VDC POWER
S-CA	CONTROL PANEL	CHLORINE ANALYZER (FUTURE)	¾"			3-#16 TSP	FUTURE
S-RSV	CONTROL PANEL	HANDHOLE FOR (F) RESERVIOR	2-2"	TBD			FUTURE
S-FO	CONTROL PANEL	PLANT SHOPS VIA HANDHOLES	2"			12-STRAND FIBER	COORDINATE WITH S&B; SEE CIVIL DRAWINGS
S-VFO	CONTROL PANEL	VIDEO PANEL	1"			FIBER	COORDINATE WITH S&B
S-VC1	CAMERA 1	VIDEO PANEL	¾"			CAT5	POE
S-VC2	CAMERA 2	VIDEO PANEL	¾"			CAT5	POE
S-VC3	CAMERA 3	VIDEO PANEL	¾"			CAT5	POE
S-VC4	CAMERA 4	VIDEO PANEL	¾"			CAT5	POE
S-VC5	CAMERA 5	VIDEO PANEL	¾"			CAT5	POE

PANEL L1

240	/120 VOLTS, SINGLE PHASE, 3 WIRE	BUS: 100A		AIC: 10KA		MAIN: 100A/2P	MOUNTING: MCC		
CKT. NO.	DESCRIPTION	CONNECTED KVA A	CONNECTED KVA B	TRIP AMPS/ POLES	CKT. NO.	DESCRIPTION	CONNECTED KVA A	CONNECTED KVA B	TRIP AMPS/ POLES
1	VIDEO PANEL	0.4		20/1	2	CONTROL PANEL	1.0		20/1
3	DEHUMIDIFIER DH-1		0.5	20/1	4	EXHAUST FAN EF-1		0.5	20/1
5	LIGHTS	0.3		20/1	6	RECEPTACLES	1.1		20/1
7	CHLORINE ANALYZER (FUTURE)		0.0	20/1	8	RECEPTACLES		1.1	20/1
9	SURGE SYSTEM CONTROL PANEL	0.3		20/1	10	SPARE	0.0		20/1
11	SPARE		0.0	20/1	12	SPARE		0.0	20/1
13	SPACE	0.0		-	14	SPACE	0.0		-
15	SPACE		0.0	-	16	SPACE		0.0	-
17	SPACE	0.0		-	18	SPACE	0.0		-
19	SPACE		0.0	-	20	SPACE		0.0	-
21	SPACE	0.0		-	22	SPACE	0.0		-
23	SPACE		0.0	-	24	SPACE		0.0	-
PHASE SUBTOTALS (KVA):		1.0	0.5				2.1	1.6	
PHASE TOTALS (KVA):							**3.1**	**2.1**	
TOTAL KVA:								**5.2**	**KVA**
TOTAL AMPERES:								**9**	**A**

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	WATTS/FIXTURE	MANUFACTURER	MOUNTING	SYMBOL
A AFF CKT	WET AREA SURFACE CEILING/SUSPENDED LED FIXTURE AND 12' CONNECTION CORD SET AND AIRCRAFT SUSPENSION CABLE SET.	LED	61	LITHONIA #FEM4 LED 4L 35 IAMCD CS89L 12 MHHK 120 OR EQUAL	SUSPENDED	
B AFF CKT	WALL PACK, LED WITH INTEGRAL PHOTOELECTRIC CELL AND TAMPER PROOF SCREWS.	LED	45	LITHONIA #TWP LED 20C 700 40K T3M 120 PE TP DBXD OR EQUAL	SURFACE WALL	
EM AFF CKT	EMERGENCY LIGHT, NICKLE-CADMIUM BATTERY OPERATED TWO 12V, 1.8W LED LAMPS, FUSED 120V INPUT W/ TEST SWITCH	(2) 1.8W LED	3.6	LITHONIA #EU2 LED M12 OR EQUAL	SURFACE WALL	
EX AFF CKT	LED EXIT LIGHT, SINGLE FACE, GREEN LETTERING WITH 90 MIN EMERGENCY NI-CAD BATTERY	LED	3	LITHONIA #ECBG LED M6 OR EQUAL	SURFACE WALL	

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22589 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED LGR
DRAWN RFB
CHECKED LGR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

CONDUIT AND WIRE SCHEDULE AND PANEL SCHEDULE

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-E006.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 79 OF 83
E6

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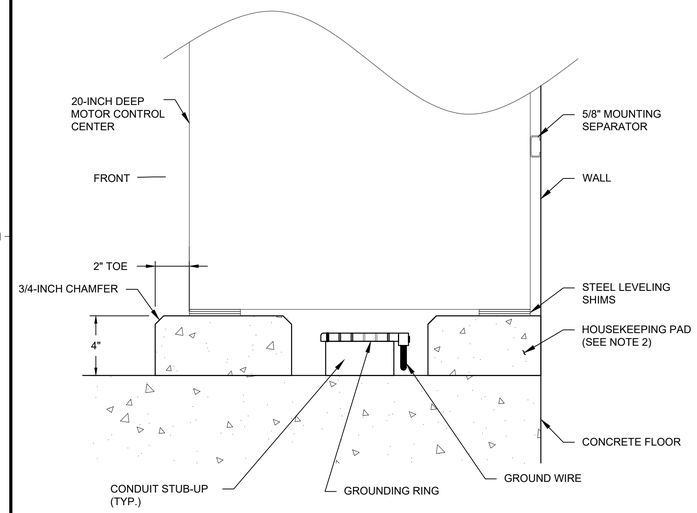
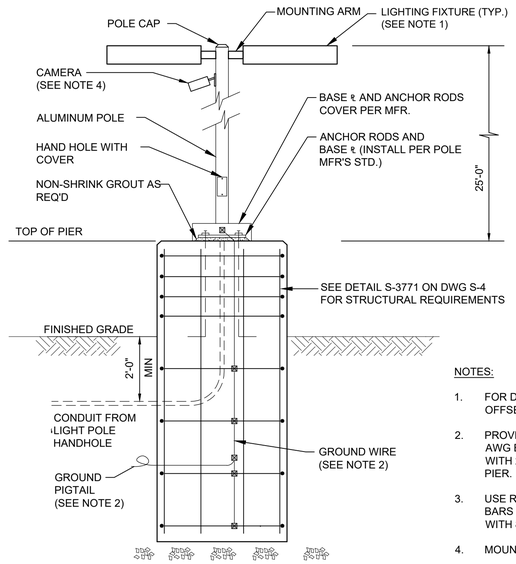


NOTES:

1. FOR MCCS DEEPER THAN 20 INCHES, EXTEND THE WIDTH OF THE FRONT CURB SUCH THAT THE 2-INCH TOE IS MAINTAINED. ALIGN THE MOUNTING CHANNEL TO THE EDGE OF THE MCC AS SHOWN.
2. FOR CONCRETE DIMENSIONS AND REINFORCEMENT DETAILS, REFERENCE S-2 STRUCTURAL SHEET.
3. LABEL ALL CONDUIT ENDS.

MCC HOUSEKEEPING PAD 1

NTS



NOTES:

1. FOR DUAL-FIXTURE LIGHT POLES, OFFSET LIGHTS BY 180 DEGREES.
2. PROVIDE CONCRETE PIER WITH #4 AWG BARE COPPER GROUND WIRE WITH 24" EXTENSION FROM SIDE OF PIER.
3. USE ROUND PIER WITH 6 VERTICAL BARS MINIMUM OR SQUARE PIER WITH 8 VERTICAL BARS MINIMUM.
4. MOUNT CAMERAS 21' ABOVE GRADE.

POLE LIGHT 2

NTS

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SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22589 — REGISTERED PROFESSIONAL ENGINEER

DESIGNED LGR

DRAWN LMM

CHECKED LGR

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

STANDARD ELECTRICAL DETAILS

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-E007.DWG
JOB NO. 1397005*00
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SHEET 80 OF 83
E7

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INSTRUMENT SYMBOL IDENTIFIERS

J-1: IDENTIFICATION LETTERS (SEE TABLE BELOW)
J-2: LOOP NUMBER
J-3: VENDOR DESIGNATOR (NOTE 3)
J-4: FUNCTION BLOCK (SEE TABLE BELOW)
J-5: PANEL NUMBER
J-6: HANDSWITCH DESIGNATOR (SEE BELOW)

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL	DAMPER		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY	SWITCH		
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, OR LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

GENERAL INSTRUMENT OR FUNCTION SYMBOLS	FIELD MOUNTED	PRIMARY LOCATION ACCESSIBLE TO OPERATOR	AUXILIARY LOCATION ACCESSIBLE TO OPERATOR	NORMALLY INACCESSIBLE OR BEHIND THE PANEL
DISCRETE INSTRUMENTS	X X	X X	X X	X X
SHARED DISPLAY, SHARED CONTROL	X X	X X	X X	X X
COMPUTER FUNCTION	X X	X X	X X	X X
PROGRAMMABLE LOGIC CONTROL	X X	X X	X X	X X

J-4 FUNCTION BLOCK DESIGNATORS

- SUMMING
- DIFFERENCE
- INTEGRAL
- DERIVATIVE
- MULTIPLYING
- DIVIDING
- CONVERT:
- ROOT EXTRACTION
- SQUARE ROOT
- EXPONENTIAL
- HIGH SELECTING
- LOW SELECTING
- BIAS
- NONLINEAR OR UNSPECIFIED FUNCTION

* E - VOLTAGE
I - CURRENT
P - PNEUMATIC
A - ANALOG
B - BINARY
H - HYDRAULIC
O - ELECTROMAGNETIC, SONIC
R - RESISTANCE (ELECT)
D - DIGITAL

J-6 HANDSWITCH DESIGNATORS

HOA	HAND-OFF-AUTO	LR	LOCAL-REMOTE
HOR	HAND-OFF-REMOTE	OC	OPEN-CLOSE
F-R	FORWARD-REVERSE	OCA	OPEN-CLOSE-AUTO
1-0	ON-OFF	A/M	AUTO-MANUAL

INSTRUMENT SERVICES

- AS — INSTRUMENT AIR SUPPLY (NOTE 4)
- ES — 120 VAC ELECTRICAL SERVICE (DIFFERENT VOLTAGES ARE SPECIFICALLY NOTED)

PLC INPUT/OUTPUT

- DISCRETE INPUT
- ANALOG INPUT
- DISCRETE OUTPUT
- ANALOG OUTPUT

FLOW PRIMARY ELEMENTS

- ORIFICE PLATE
- SINGLE PORT PITOT TUBE OR PITOT-VENTURI TUBE
- VENTURI TUBE
- AVERAGING PITOT TUBE
- FLUME
- WEIR
- TURBINE OR PROPELLER-TYPE PRIMARY ELEMENT
- THERMAL MASS FLOWMETER
- POSITIVE DISPLACEMENT TYPE FLOW TOTALIZING INDICATOR
- VORTEX SENSOR
- TARGET TYPE SENSOR
- FLOW NOZZLE
- MAGNETIC FLOWMETER
- SONIC FLOWMETER
- ROTAMETER
- ROTAMETER WITH INTEGRAL VALVE

LINES

- MAIN PROCESS
- SECONDARY PROCESS
- TOP / MIDDLE / BOTTOM / NUMBER — EQUIPMENT IDENTIFICATION / EQUIPMENT ASSET NUMBER
- TITLE1 / TITLE2 / LTR / SHT / SYSTEM — FROM/TO SYSTEM; REFERENCES ENTERING/LEAVING SHEET; SYSTEM
- TITLE1 / TITLE2 / LTR / SHT / SYSTEM — TO/FROM SYSTEM; REFERENCES ENTERING/LEAVING SHEET; SYSTEM
- 24" BW — PIPE SYSTEM; PIPE SIZE IN INCHES
- DOUBLE CONTAINMENT
- ELECTRICAL SIGNAL
- SOFTWARE OR DATALINK
- PNEUMATIC
- HYDRAULIC
- CAPILLARY TUBE
- ELECTROMAGNETIC OR SONIC (GUIDED)
- MECHANICAL OR ELECTRICAL — CONNECTED
- NOT CONNECTED

VALVES

- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- CHECK VALVE
- DUCKBILL CHECK VALVE
- PINCH VALVE
- DIAPHRAGM VALVE
- BUTTERFLY VALVE
- BALL VALVE
- NEEDLE VALVE
- PLUG (COCK)
- PRESSURE REDUCING REGULATING VALVE, SELF-CONTAINED
- BACK PRESSURE REGULATING VALVE, SELF-CONTAINED
- PRESSURE REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
- 3-WAY VALVE
- 4-WAY VALVE
- ANGLE VALVE
- PRESSURE RELIEF VALVE
- * FC = FAIL CLOSED; FO = FAIL OPEN; LC = LOCKED CLOSED; LO = LOCKED OPEN
- SHADING INDICATES PORT TO BE CLOSED DURING NORMAL OPERATION. DOT INDICATES PORT TO BE CLOSED DURING ALTERNATE OPERATION.

VALVE OPERATORS

- DIAPHRAGM
- DIAPHRAGM PRESSURE BALANCED
- MOTOR (M)
- CYLINDER OPERATOR
- SOLENOID (S)
- SOLENOID VALVE (SV)

TYPICAL CONNECTION

- IN-LINE DEVICE
- DIRECT CONNECTION TO PROCESS
- TEMPERATURE ELEMENT WITH WELL
- RADIATION OR SONIC SENSING
- FILLED SYSTEM, DIAPHRAGM SEAL CONNECTION

MISCELLANEOUS

- FLANGE
- UNION
- Y STRAINER
- FLOW STRAIGHTENING VANE
- TEE
- SCREWED CAP
- WELDED CAP
- BLIND FLANGE
- REDUCER
- HB — HOSE BIBB CONNECTION
- CHEMICAL PIPING FLEXIBLE CONNECTION/ FLEXIBLE HOSE
- FLEXIBLE TANK CONNECTION
- BRAIDED METAL HOSE
- METAL BELLOWS
- RUBBER EXPANSION JOINT
- FLEXIBLE COUPLING
- FLANGED COUPLING ADAPTER
- SLUICE GATE OR SLIDE GATE
- DRAIN
- DIAPHRAGM SEAL
- RUPTURE DISK, PRESSURE
- RUPTURE DISK, VACUUM
- P — PURGE
- THERMOMETER WELL
- CALIBRATION CYLINDER
- PULSATION DAMPER
- AIR RELIEF VALVE
- AIR RELEASE
- LEVEL PROBE
- CHEMICAL DIFFUSER
- ORIFICE PLATE OR PLATE TYPE STATIC MIXER
- STATIC MIXER
- EDUCTOR/INJECTOR
- INTERLOCK. NUMBER IS THE CROSS REFERENCE TO A SPECIFIC ELEMENTARY DIAGRAM OR TO A SPECIFIC CONTROL STRATEGY DESCRIBED IN THE SPECS
- * AV - AIR VALVE; F - FILTER; T - TRAP; FH - FIRE HYDRANT
- WATER LINE
- GRAVITY FLOW

EQUIPMENT

- MIXER
- VERTICAL TURBINE PUMP
- SUBMERSIBLE PUMP
- PUMP BLOWER
- PUMP
- METERING PUMP
- PUMP PROGRESSIVE CAVITY
- ROTARY PUMP
- COMPRESSOR
- PERISTALTIC PUMP
- VERTICAL TURBINE PUMP HEAD
- VERTICAL TURBINE PUMP T-HEAD
- VERTICAL TURBINE PUMP CAN
- VERTICAL TURBINE PUMP INTAKE

NOTES:

1. THIS IS A GENERALIZED LEGEND SHEET.
2. SEE ALSO ISA S5.1, S5.3 AND S7.3.
3. INSTRUMENTS MARKED WITH AN ASTERISK ON PID ARE FURNISHED WITH THE EQUIPMENT.
4. REFER TO ISA RP7.7 FOR INSTRUMENT AIR QUALITY STANDARDS.

NO.	REVISION	DATE	BY

SCALES
0 — 1"
0 — 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISINGER — STATE OF WASHINGTON — 22580 — REGISTERED PROFESSIONAL ENGINEER

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DRAWN LMM
CHECKED

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PROCESS AND INSTRUMENTATION DIAGRAM BOOSTER PUMP STATION LEGEND

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-I001.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 81 OF 83
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SCADA

PLC TO SCADA NETWORK

PLC (LOCATED IN CONTROL PANEL)

PLC I/O

FLOW FI 102
PRESSURE PI 103
PRESSURE LOW PAL 104
VALVE POSITION ZIC 117
FLOW FI 117
KW JI 109
LOW VOLTAGE EAL 109
HIGH VOLTAGE EAH 109
PHASE LOSS JA 109a
PHASE ROATATION JA 109b
FREQ LOW SAL 109
FREQ HIGH SAH 109
SMOKE DETECTOR XA 105
DOOR INTRUSION XA 106
MOTION DETECTOR XA 107
ROOF INTRUSION ZAO 111
PRESSURE P I 108

TYPICAL OF 3
SPEED CTRL SIC 110
AMPS I I 110
KW JI 110
FAULT XA 110
RUN XI 110
CALL YI 110
HOA HS 110
OVER TEMP TSH 110
VALVE CLOSED ZIC 110

CITY SHOPS VIDEO XI 112

INTERLOCK TO 3 PUMP VFD'S

JT 109 IN MCC MCC POWER MONITOR

XS 113
ZSO 141
ZSO 142
ZSO 143
XS 114
ZSO 111
ZSO 112
ZSO 113

MCC
HS 130 VFD
SC 130 VFD
YI 130

MCC
HS 120 VFD
SC 120 VFD
YI 120

LOW PRESSURE TRIP
MCC
HS 110 VFD
SC 110 VFD
YI 110

VIDEO PANEL
XT 112
(4) SECURITY CAMERAS SEE E5 FOR LOCATIONS

ES
2" CAV
FIT 102
FE 102
PIT 103
M

TO 742 ZONE
12"X10"
12"X6"
10" PW
10"X8"
8" PW

TO SURGE TANK A / I-3
6" PW
PW

TO SURGE TANK B / I-3
6" PW
PW

ES FIT 117 FE 117 M
8" PW
6" PW
ZT 116
PCV 116

PSL 104
LCV 116
2" CAV
ALTITUDE VALVE (FUTURE)

12" PW (F)
TO RESERVOIR
12" PW

12" PW (F)
TO/FROM RESERVOIR
12" PW

P I 130
TSH 130
ZSC 130
ES M 1/2" ARV
8" PW
10" PW
BOOSTER PUMP NO. 3
P-130

P I 120
TSH 120
ZSC 120
ES M 1/2" ARV
8" PW
10" PW
BOOSTER PUMP NO. 2
P-120

P I 110
TSH 110
ZSC 110
ES M 1/2" ARV
8" PW
10" PW
BOOSTER PUMP NO. 1
P-110

P I T 108

12" PW
FROM 520 ZONE
12" PW
TO/FROM 297 ZONE

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NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. REISINGER STATE OF WASHINGTON 22580 REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH
DRAWN LMM
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

PROCESS AND INSTRUMENTATION DIAGRAM
BOOSTER PUMP STATION

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-I002.DWG
JOB NO. 1397005*00
DATE JUNE 2020
SHEET 82 OF 83
I 2

SCADA

ALARM XA 100

ALARM XA 100 RUNNING XI 100

PLC TO SCADA NETWORK

PLC (LOCATED IN CONTROL PANEL)

PLC I/O

CP-SURGE TANK

I -

I -

MUFFLER

AIR OUT

S

KV 100a

PSV 200 150 PSI

LT 100

PI 100

1" CA

SURGE TANK T-1

8"x6"

6" PW

KV 100b

AIR IN

80 PSI 1/2" CA

TOOL AIR

PRV 100

PACKAGED CONTROL

ES

AIR COMPRESSOR AND RECIEVER AC-1

M 480 150 PSI

FILTER FILTER FILTER

KV 100c KV 100d KV 100e KV 100f

MUFFLER

AIR OUT

KV 110a

PSV 210 150 PSI

PI 110

LT 110

1" CA

KV 110b

AIR IN

SURGE TANK T-2

8"x6"

TO 742 ZONE

12" PW

12" PW

FROM BOOSTER PUMP STATION A / I-2 PW

6" PW

FROM BOOSTER PUMP STATION B / I-2 PW

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NO.	REVISION	DATE	BY

SCALES

0 1"

0 25mm

IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

LAWRENCE G. RESINGER STATE OF WASHINGTON 22585 REGISTERED PROFESSIONAL ENGINEER

DESIGNED SGH

DRAWN RFB

CHECKED JMF

CITY OF ISSAQUAH

ISSAQUAH, WASHINGTON

SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants

FEDERAL WAY, WASHINGTON

PROCESS AND INSTRUMENTATION DIAGRAM AIR COMPRESSOR AND SURGE TANK

90% SUBMITTAL (REVISED 7/1/2020)

FILE NAME 139700500-I003.DWG

JOB NO. 1397005*00

DATE JUNE 2020

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I 3

Appendix D

Western Washington Hydrology Model Output

WWHM2012

PROJECT REPORT

General Model Information

Project Name:	Issaquah SPAR_Nov30
Site Name:	
Site Address:	
City:	
Report Date:	11/30/2020
Gage:	Seatac
Data Start:	1948/10/01
Data End:	2009/09/30
Timestep:	15 Minute
Precip Scale:	1.333
Version Date:	2019/09/13
Version:	4.2.17

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data
Predeveloped Land Use

Existing

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
A B, Forest, Steep	0.085
Pervious Total	0.085

Impervious Land Use	acre
ROADS MOD	0.118
Impervious Total	0.118
Basin Total	0.203

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
Pervious Total	0
Impervious Land Use	acre
ROADS MOD	0.2
Impervious Total	0.2
Basin Total	0.2

Element Flows To:

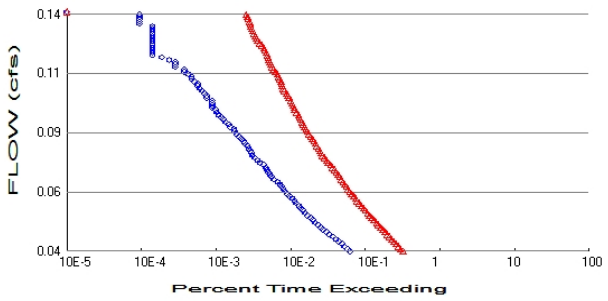
Surface	Interflow	Groundwater

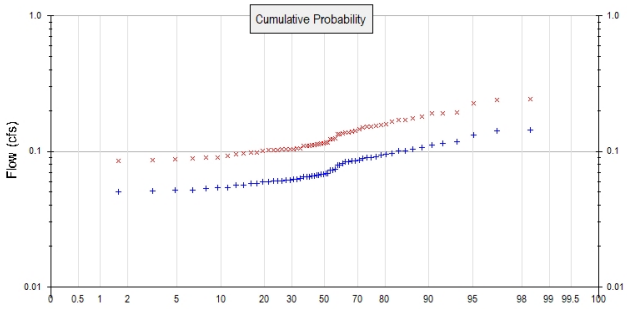
Routing Elements
Predeveloped Routing

Mitigated Routing

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 0.085
Total Impervious Area: 0.118

Mitigated Landuse Totals for POC #1
Total Pervious Area: 0
Total Impervious Area: 0.2

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.072604
5 year	0.092335
10 year	0.105812
25 year	0.123366
50 year	0.13685
100 year	0.150701

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0.122529
5 year	0.155565
10 year	0.178099
25 year	0.207421
50 year	0.229923
100 year	0.253022

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1949	0.090	0.153
1950	0.093	0.158
1951	0.054	0.090
1952	0.048	0.082
1953	0.057	0.096
1954	0.060	0.102
1955	0.068	0.116
1956	0.067	0.114
1957	0.066	0.112
1958	0.058	0.098

1959	0.065	0.110
1960	0.062	0.105
1961	0.060	0.102
1962	0.051	0.086
1963	0.062	0.104
1964	0.062	0.105
1965	0.073	0.123
1966	0.052	0.087
1967	0.086	0.138
1968	0.112	0.190
1969	0.067	0.113
1970	0.065	0.110
1971	0.079	0.134
1972	0.083	0.135
1973	0.052	0.088
1974	0.073	0.124
1975	0.079	0.134
1976	0.060	0.102
1977	0.061	0.103
1978	0.090	0.152
1979	0.106	0.180
1980	0.114	0.194
1981	0.067	0.114
1982	0.097	0.165
1983	0.081	0.137
1984	0.053	0.090
1985	0.069	0.116
1986	0.058	0.098
1987	0.091	0.154
1988	0.066	0.112
1989	0.101	0.171
1990	0.119	0.191
1991	0.101	0.171
1992	0.054	0.092
1993	0.073	0.124
1994	0.059	0.101
1995	0.061	0.104
1996	0.085	0.140
1997	0.063	0.104
1998	0.068	0.115
1999	0.143	0.242
2000	0.065	0.110
2001	0.084	0.142
2002	0.086	0.145
2003	0.088	0.149
2004	0.141	0.239
2005	0.057	0.096
2006	0.051	0.084
2007	0.133	0.225
2008	0.096	0.157
2009	0.104	0.176

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.1430	0.2423
2	0.1409	0.2388
3	0.1325	0.2246

4	0.1186	0.1935
5	0.1142	0.1906
6	0.1120	0.1898
7	0.1059	0.1796
8	0.1039	0.1760
9	0.1010	0.1709
10	0.1009	0.1706
11	0.0972	0.1647
12	0.0955	0.1584
13	0.0934	0.1573
14	0.0907	0.1537
15	0.0903	0.1526
16	0.0898	0.1523
17	0.0881	0.1493
18	0.0858	0.1454
19	0.0855	0.1417
20	0.0851	0.1397
21	0.0836	0.1384
22	0.0832	0.1374
23	0.0811	0.1352
24	0.0792	0.1343
25	0.0789	0.1338
26	0.0732	0.1241
27	0.0730	0.1238
28	0.0725	0.1228
29	0.0687	0.1164
30	0.0683	0.1158
31	0.0677	0.1147
32	0.0674	0.1143
33	0.0671	0.1136
34	0.0667	0.1131
35	0.0660	0.1118
36	0.0659	0.1117
37	0.0651	0.1103
38	0.0648	0.1099
39	0.0648	0.1098
40	0.0627	0.1053
41	0.0622	0.1050
42	0.0620	0.1044
43	0.0615	0.1041
44	0.0612	0.1038
45	0.0608	0.1031
46	0.0603	0.1022
47	0.0601	0.1019
48	0.0599	0.1015
49	0.0594	0.1007
50	0.0580	0.0982
51	0.0579	0.0981
52	0.0567	0.0959
53	0.0565	0.0958
54	0.0543	0.0921
55	0.0543	0.0902
56	0.0531	0.0900
57	0.0520	0.0881
58	0.0515	0.0873
59	0.0508	0.0860
60	0.0506	0.0845
61	0.0485	0.0821

Duration Flows

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0363	1339	6840	510	Fail
0.0373	1233	6338	514	Fail
0.0383	1119	5908	527	Fail
0.0393	1036	5505	531	Fail
0.0404	947	5135	542	Fail
0.0414	865	4772	551	Fail
0.0424	782	4479	572	Fail
0.0434	702	4190	596	Fail
0.0444	639	3940	616	Fail
0.0454	575	3687	641	Fail
0.0465	539	3429	636	Fail
0.0475	498	3191	640	Fail
0.0485	456	3018	661	Fail
0.0495	425	2800	658	Fail
0.0505	393	2609	663	Fail
0.0515	355	2438	686	Fail
0.0526	332	2284	687	Fail
0.0536	312	2139	685	Fail
0.0546	293	2011	686	Fail
0.0556	276	1881	681	Fail
0.0566	253	1756	694	Fail
0.0576	240	1669	695	Fail
0.0586	224	1579	704	Fail
0.0597	204	1492	731	Fail
0.0607	192	1400	729	Fail
0.0617	178	1326	744	Fail
0.0627	170	1251	735	Fail
0.0637	160	1193	745	Fail
0.0647	154	1128	732	Fail
0.0658	143	1072	749	Fail
0.0668	127	1022	804	Fail
0.0678	118	965	817	Fail
0.0688	112	923	824	Fail
0.0698	107	868	811	Fail
0.0708	104	825	793	Fail
0.0718	99	772	779	Fail
0.0729	93	730	784	Fail
0.0739	82	679	828	Fail
0.0749	77	644	836	Fail
0.0759	71	604	850	Fail
0.0769	66	571	865	Fail
0.0779	64	545	851	Fail
0.0790	61	526	862	Fail
0.0800	58	501	863	Fail
0.0810	56	480	857	Fail
0.0820	52	457	878	Fail
0.0830	50	438	876	Fail
0.0840	46	416	904	Fail
0.0851	43	395	918	Fail
0.0861	40	376	939	Fail
0.0871	38	355	934	Fail
0.0881	37	344	929	Fail
0.0891	33	329	996	Fail
0.0901	32	313	978	Fail

0.0911	29	300	1034	Fail
0.0922	27	290	1074	Fail
0.0932	25	280	1120	Fail
0.0942	23	271	1178	Fail
0.0952	22	255	1159	Fail
0.0962	21	241	1147	Fail
0.0972	19	237	1247	Fail
0.0983	19	229	1205	Fail
0.0993	19	221	1163	Fail
0.1003	19	214	1126	Fail
0.1013	16	202	1262	Fail
0.1023	16	192	1200	Fail
0.1033	15	188	1253	Fail
0.1043	14	175	1250	Fail
0.1054	13	170	1307	Fail
0.1064	12	164	1366	Fail
0.1074	12	161	1341	Fail
0.1084	11	158	1436	Fail
0.1094	10	153	1530	Fail
0.1104	10	145	1450	Fail
0.1115	9	141	1566	Fail
0.1125	8	134	1675	Fail
0.1135	8	125	1562	Fail
0.1145	6	120	2000	Fail
0.1155	6	116	1933	Fail
0.1165	6	112	1866	Fail
0.1176	5	109	2180	Fail
0.1186	4	107	2675	Fail
0.1196	3	104	3466	Fail
0.1206	3	100	3333	Fail
0.1216	3	95	3166	Fail
0.1226	3	93	3100	Fail
0.1236	3	88	2933	Fail
0.1247	3	82	2733	Fail
0.1257	3	76	2533	Fail
0.1267	3	74	2466	Fail
0.1277	3	71	2366	Fail
0.1287	3	69	2300	Fail
0.1297	3	66	2200	Fail
0.1308	3	64	2133	Fail
0.1318	3	62	2066	Fail
0.1328	2	62	3100	Fail
0.1338	2	60	3000	Fail
0.1348	2	57	2850	Fail
0.1358	2	56	2800	Fail
0.1369	2	54	2700	Fail

The development has an increase in flow durations from 1/2 Predeveloped 2 year flow to the 2 year flow or more than a 10% increase from the 2 year to the 50 year flow.
The development has an increase in flow durations for more than 50% of the flows for the range of the duration analysis.

Water Quality

Water Quality BMP Flow and Volume for POC #1

On-line facility volume:	0 acre-feet
On-line facility target flow:	0 cfs.
Adjusted for 15 min:	0 cfs.
Off-line facility target flow:	0 cfs.
Adjusted for 15 min:	0 cfs.

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Total Volume Infiltrated		0.00	0.00	0.00		0.00	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Failed

Model Default Modifications

Total of 0 changes have been made.

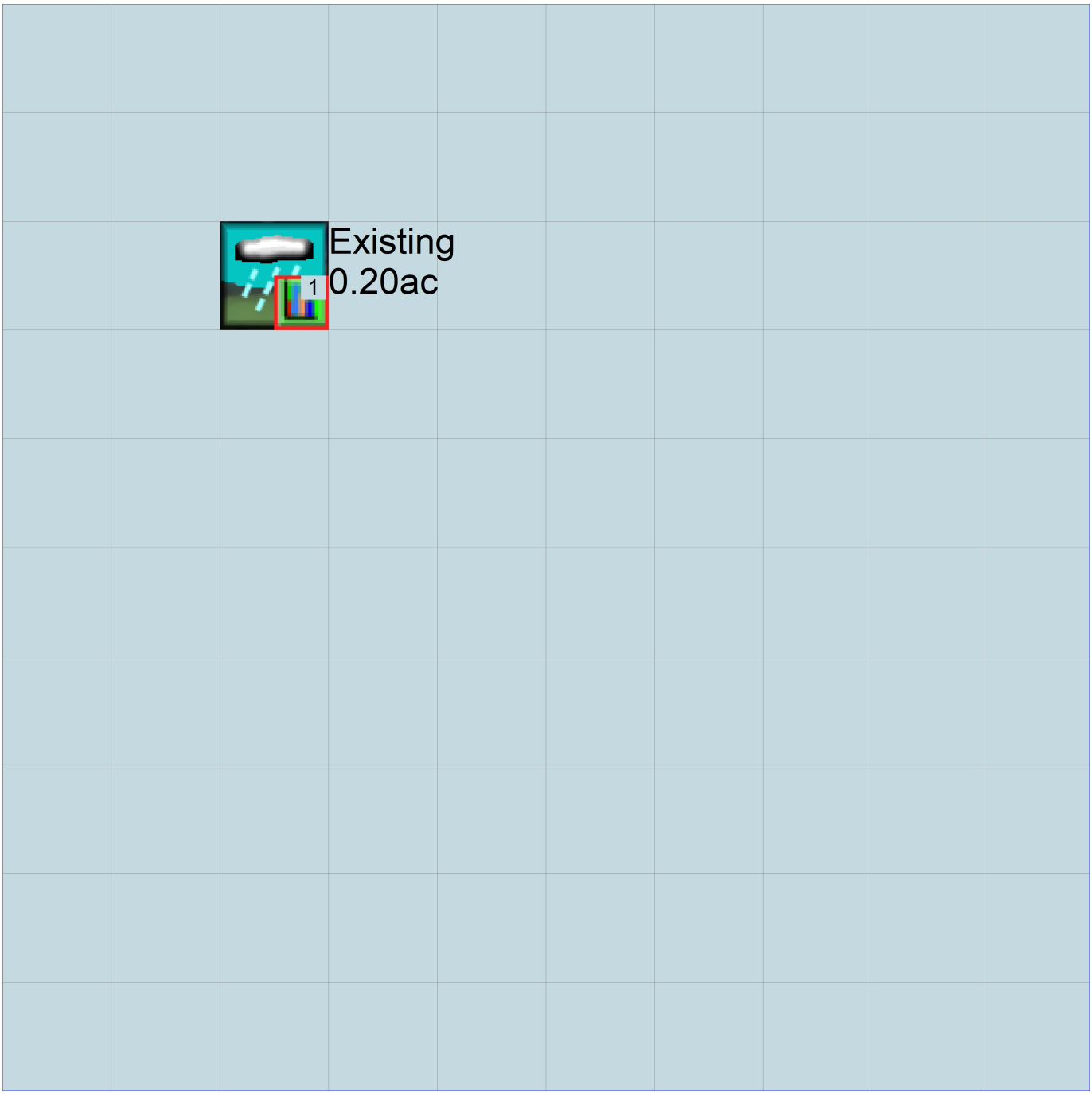
PERLND Changes

No PERLND changes have been made.

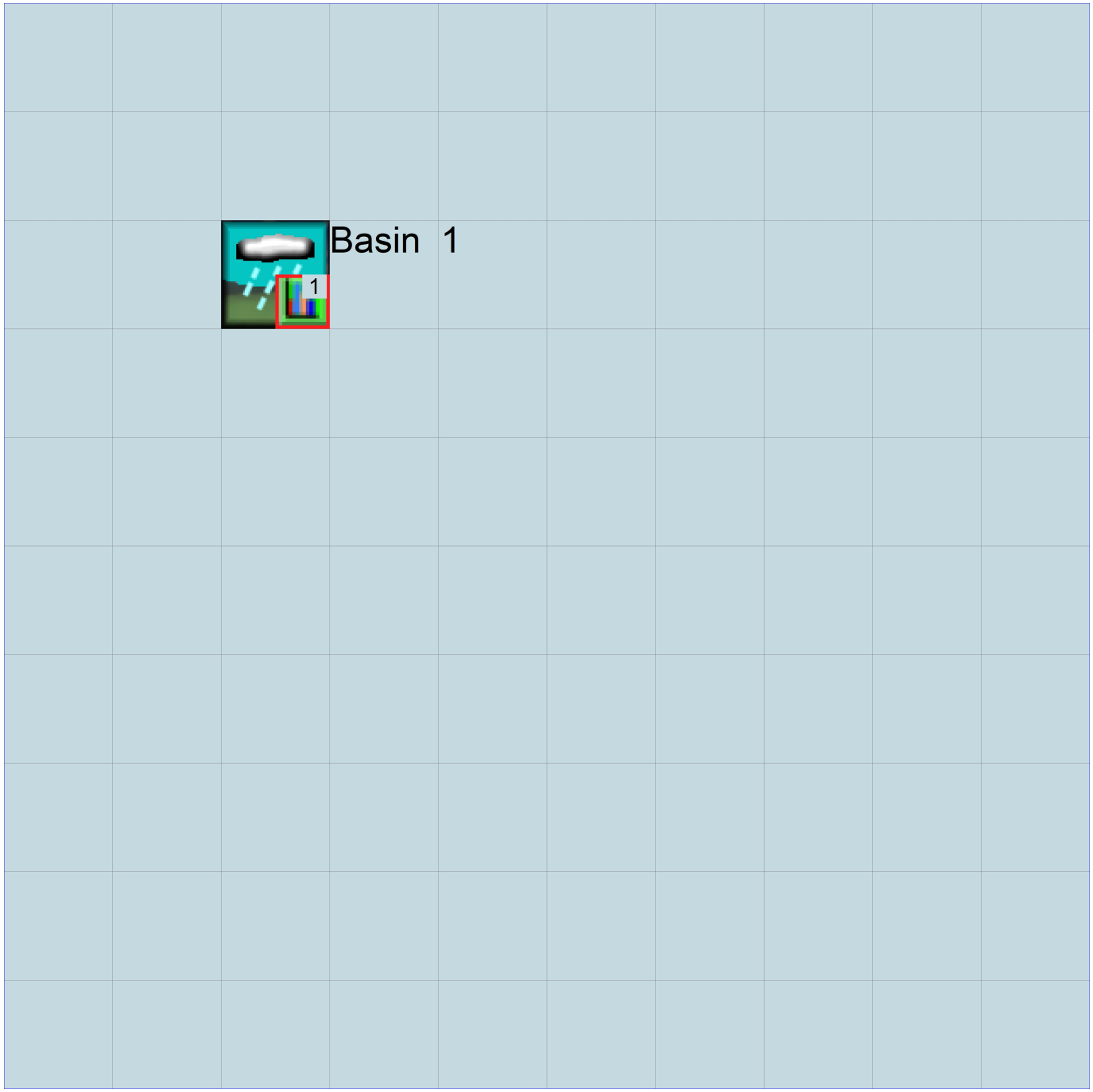
IMPLND Changes

No IMPLND changes have been made.

Appendix
Predeveloped Schematic



Mitigated Schematic



Predeveloped UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1948 10 01        END    2009 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM        26   Issaquah SPAR_Nov30.wdm
MESSU      25   PreIssaquah SPAR_Nov30.MES
           27   PreIssaquah SPAR_Nov30.L61
           28   PreIssaquah SPAR_Nov30.L62
           30   POCIssaquah SPAR_Nov301.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND       3
      IMPLND       2
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Existing to WSDOT           MAX                    1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                       in  out           ***
    3     A/B, Forest, Steep      1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
    3         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
    3         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO
```

```
  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
    3         0    0    0    0    0    0    0    0    0    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
    3             0         5         2       400      0.15       0.3     0.996
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
    3             0         0         2         2         0         0         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
    3          0.2       0.5      0.35         0       0.7       0.7
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
             ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
    3             0         0         0         0         3         1         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                     in  out           ***
    2      ROADS/MOD              1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    2         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    2         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    2         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    2            400      0.05       0.1      0.08
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    2             0         0
```

```
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    2            0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Existing to WSDOT***
PERLND   3                       0.085     COPY   501     12
PERLND   3                       0.085     COPY   501     13
IMPLND   2                       0.118     COPY   501     15

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                 ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG            ***
                                         in  out                             ***
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                      ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                         ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit       for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
```

```
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1.333          PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1.333          IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.76           PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.76           IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    501 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15


END MASS-LINK

END RUN
```

Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1948 10 01        END    2009 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                    UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                             ***
WDM        26   Issaquah SPAR_Nov30.wdm
MESSU      25   MitIssaquah SPAR_Nov30.MES
           27   MitIssaquah SPAR_Nov30.L61
           28   MitIssaquah SPAR_Nov30.L62
           30   POCIssaquah SPAR_Nov301.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      IMPLND       2
      RCHRES       1
      COPY         1
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title---------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Trapezoidal Pond  1         MAX                    1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                         User  t-series Engl Metr ***
                                          in  out           ***
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
  END PRINT-INFO

  PWAT-PARM1
```

```
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
               ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS       AGWS      GWVS
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                     in  out           ***
    2      ROADS/MOD              1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    2         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    2         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    2         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    2            400      0.05       0.1      0.08
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    2              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    2              0         0
  END IWAT-STATE1
```

```
END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Basin  1***
IMPLND   2                       0.191     RCHRES   1      5

******Routing******
IMPLND   2                       0.191     COPY     1     15
RCHRES   1                           1     COPY   501     16
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<----------------><---> User T-series  Engl Metr LKFG             ***
                                      in  out                               ***
    1     Trapezoidal Pond-005    1    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                    ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *        ***
    1        0  1  0  0    4  0  0  0  0       0  0  0  0  0        2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
    1             1      0.01       0.0       0.0       0.5       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                       ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
           *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
    1            0         4.0  0.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
```

FTABLES
FTABLE 1
91 4

Depth (ft)	Area (acres)	Volume (acre-ft)	Outflow1 (cfs)	Velocity (ft/sec)	Travel Time*** (Minutes)***
0.000000	0.101427	0.000000	0.000000		
0.033333	0.102038	0.003391	0.004885		
0.066667	0.102652	0.006803	0.006909		
0.100000	0.103267	0.010235	0.008462		
0.133333	0.103883	0.013687	0.009771		
0.166667	0.104502	0.017160	0.010924		
0.200000	0.105122	0.020654	0.011967		
0.233333	0.105745	0.024168	0.012925		
0.266667	0.106369	0.027704	0.013818		
0.300000	0.106995	0.031260	0.014656		
0.333333	0.107623	0.034837	0.015449		
0.366667	0.108252	0.038435	0.016203		
0.400000	0.108884	0.042053	0.016923		
0.433333	0.109517	0.045693	0.017614		
0.466667	0.110152	0.049355	0.018279		
0.500000	0.110789	0.053037	0.018921		
0.533333	0.111428	0.056741	0.019541		
0.566667	0.112069	0.060466	0.020143		
0.600000	0.112711	0.064212	0.020727		
0.633333	0.113356	0.067980	0.021295		
0.666667	0.114002	0.071769	0.021848		
0.700000	0.114650	0.075580	0.022388		
0.733333	0.115300	0.079412	0.022914		
0.766667	0.115951	0.083267	0.023429		
0.800000	0.116605	0.087142	0.023933		
0.833333	0.117260	0.091040	0.024427		
0.866667	0.117918	0.094960	0.024911		
0.900000	0.118577	0.098901	0.025385		
0.933333	0.119237	0.102865	0.025851		
0.966667	0.119900	0.106851	0.026308		
1.000000	0.120565	0.110858	0.026758		
1.033333	0.121231	0.114888	0.027201		
1.066667	0.121899	0.118940	0.027636		
1.100000	0.122569	0.123015	0.028064		
1.133333	0.123241	0.127112	0.030077		
1.166667	0.123915	0.131231	0.033370		
1.200000	0.124591	0.135373	0.037465		
1.233333	0.125268	0.139537	0.042183		
1.266667	0.125947	0.143724	0.047418		
1.300000	0.126628	0.147934	0.053098		
1.333333	0.127311	0.152166	0.059165		
1.366667	0.127996	0.156421	0.065576		
1.400000	0.128683	0.160699	0.072294		
1.433333	0.129371	0.165000	0.079288		
1.466667	0.130061	0.169324	0.086531		
1.500000	0.130753	0.173671	0.094000		
1.533333	0.131447	0.178041	0.352804		
1.566667	0.132143	0.182434	0.825403		
1.600000	0.132841	0.186850	1.436952		
1.633333	0.133540	0.191290	2.160705		
1.666667	0.134241	0.195753	2.981120		
1.700000	0.134944	0.200239	3.887575		
1.733333	0.135649	0.204749	4.872094		
1.766667	0.136356	0.209283	5.928284		
1.800000	0.137065	0.213840	7.050758		
1.833333	0.137775	0.218420	8.234797		
1.866667	0.138488	0.223025	9.476125		
1.900000	0.139202	0.227653	10.77077		
1.933333	0.139918	0.232305	12.11495		
1.966667	0.140636	0.236981	13.50502		
2.000000	0.141355	0.241681	14.93741		
2.033333	0.142077	0.246405	16.40858		
2.066667	0.142800	0.251153	17.91501		
2.100000	0.143525	0.255925	19.45316		
2.133333	0.144252	0.260721	21.01950		

```
  2.166667  0.144981  0.265541  22.61043
  2.200000  0.145712  0.270386  24.22235
  2.233333  0.146444  0.275256  25.85162
  2.266667  0.147178  0.280149  27.49455
  2.300000  0.147915  0.285068  29.14745
  2.333333  0.148653  0.290010  30.80659
  2.366667  0.149392  0.294978  32.46823
  2.400000  0.150134  0.299970  34.12864
  2.433333  0.150878  0.304987  35.78410
  2.466667  0.151623  0.310028  37.43087
  2.500000  0.152370  0.315095  39.06530
  2.533333  0.153119  0.320186  40.68375
  2.566667  0.153870  0.325303  42.28265
  2.600000  0.154623  0.330444  43.85853
  2.633333  0.155377  0.335611  45.40799
  2.666667  0.156134  0.340803  46.92776
  2.700000  0.156892  0.346020  48.41470
  2.733333  0.157652  0.351262  49.86583
  2.766667  0.158414  0.356530  51.27834
  2.800000  0.159178  0.361823  52.64961
  2.833333  0.159943  0.367142  53.97724
  2.866667  0.160711  0.372486  55.25908
  2.900000  0.161480  0.377856  56.49323
  2.933333  0.162251  0.383252  57.67808
  2.966667  0.163024  0.388673  58.81232
  3.000000  0.163798  0.394120  59.89499
  END FTABLE  1
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1.333          PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1.333          IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.76           PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.76           IMPLND   1 999 EXTNL  PETINP
WDM      2 PREC     ENGL    1.333          RCHRES   1     EXTNL  PREC
WDM      1 EVAP     ENGL    0.76           RCHRES   1     EXTNL  POTEV

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
RCHRES   1 HYDR   RO     1 1        1      WDM   1000 FLOW     ENGL      REPL
RCHRES   1 HYDR   STAGE  1 1        1      WDM   1001 STAG     ENGL      REPL
COPY     1 OUTPUT MEAN   1 1     48.4      WDM    701 FLOW     ENGL      REPL
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    801 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15

  MASS-LINK       16
RCHRES     ROFLOW                          COPY           INPUT  MEAN
  END MASS-LINK   16


END MASS-LINK

END RUN
```

Predeveloped HSPF Message File

Mitigated HSPF Message File

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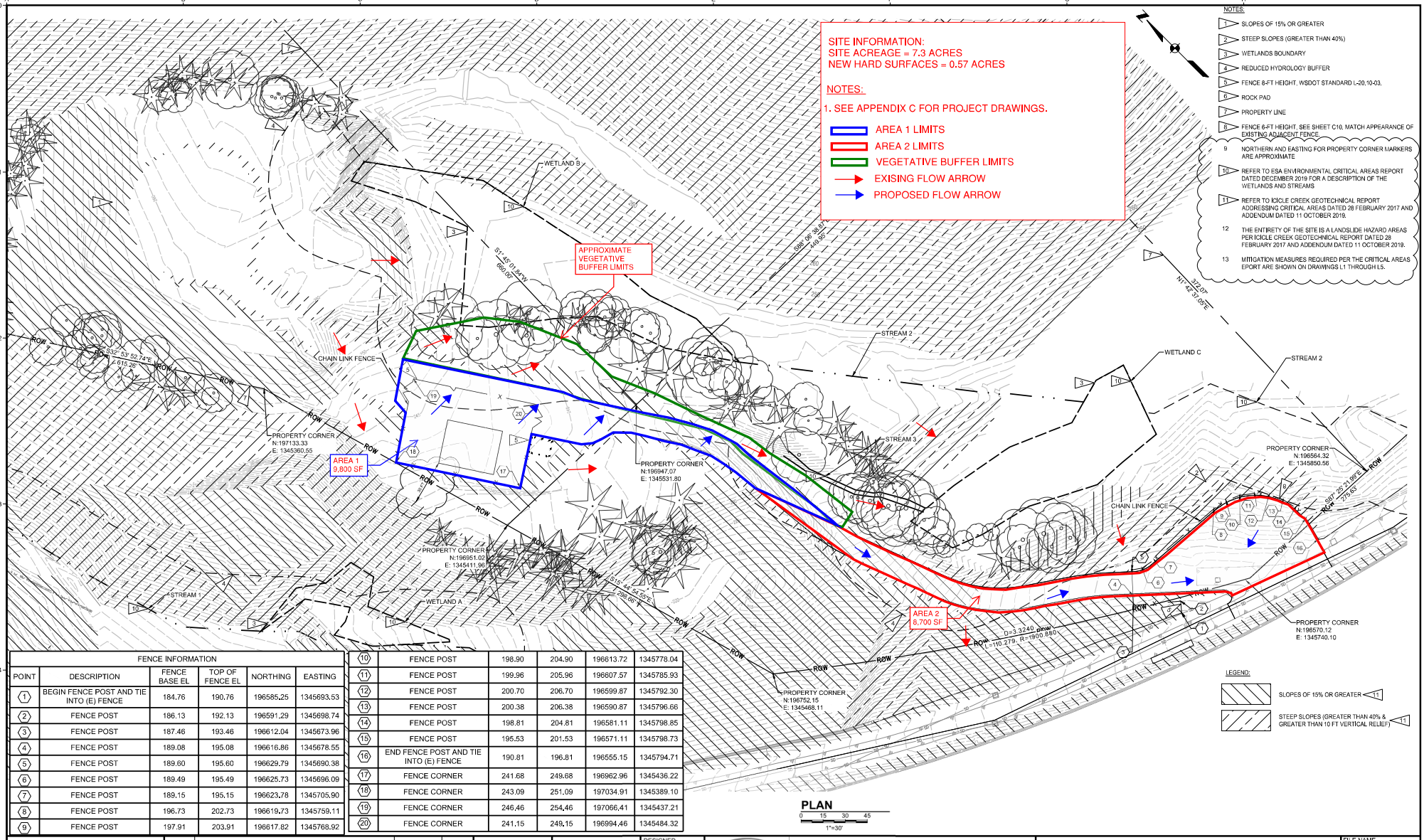
Appendix E

Drainage Plan



FENCE INFORMATION					
POINT	DESCRIPTION	FENCE BASE EL	TOP OF FENCE EL	NORTHING	EASTING
1	BEGIN FENCE POST AND TIE INTO (E) FENCE	184.76	190.76	196585.25	1345693.53
2	FENCE POST	186.13	192.13	196591.29	1345698.74
3	FENCE POST	187.46	193.46	196612.04	1345673.96
4	FENCE POST	189.08	195.08	196616.86	1345678.55
5	FENCE POST	189.60	195.60	196629.79	1345690.38
6	FENCE POST	189.49	195.49	196625.73	1345696.09
7	FENCE POST	189.15	195.15	196623.78	1345705.90
8	FENCE POST	196.73	202.73	196619.73	1345759.11
9	FENCE POST	197.91	203.91	196617.82	1345768.92
10	FENCE POST	198.90	204.90	196613.72	1345778.04
11	FENCE POST	199.96	205.96	196607.57	1345785.93
12	FENCE POST	200.70	206.70	196599.87	1345792.30
13	FENCE POST	200.38	206.38	196590.87	1345796.66
14	FENCE POST	198.81	204.81	196581.11	1345798.85
15	FENCE POST	195.53	201.53	196571.11	1345798.73
16	END FENCE POST AND TIE INTO (E) FENCE	190.81	196.81	196555.15	1345794.71
17	FENCE CORNER	241.68	249.68	196962.96	1345436.22
18	FENCE CORNER	243.09	251.09	197034.91	1345389.10
19	FENCE CORNER	246.46	254.46	197066.41	1345437.21
20	FENCE CORNER	241.15	249.15	196994.46	1345484.32

NO.	REVISION	DATE	BY

SCALES
0 1"
0 25mm
IF THIS BAR IS NOT DIMENSION SHOWN, ADJUST SCALES ACCORDINGLY.

DESIGNED DRP
DRAWN DRP
CHECKED JMF

CITY OF ISSAQUAH
ISSAQUAH, WASHINGTON
SOUTH SPAR BOOSTER PUMP STATION

Kennedy/Jenks Consultants
FEDERAL WAY, WASHINGTON

APPENDIX E - DRAINAGE PLAN

FILE NAME
JOB NO.
DATE NOVEMBER 2020
SHEET OF

11/30/2020 12:16 PM JONILUND
\\kjc.local\KJC-Root\KJ-Office\WY\CAD\CAD\13\1397000\00_City_of_Issaquah\1397000\00-G011.dwg